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The New Institutional Economics of Markets:

An Introduction

by

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The objection essentially is that the theory floats in the air. It is as if one studied the circulation of the blood without having a body. Firms have no substance. Markets exist without laws ... (Coase 1984, 230).

In approaching the literature on the “market”, it is important to keep in mind that modern mainstream economics gave no more than cursory attention to the market as an institution. The broader theory of the market was simply not given serious attention. Thus, as Coase pointed out, while microeconomic analysis dealt intensively with the determination of market prices, discussion of the market itself was virtually absent. In short, the post-war movement toward more formal theory reinforced the general tendency of the profession to interpret the market as simply a place where consumers and entrepreneurs met, exchanged commodities and, in the process, established prices. This conception was, of course, fully consistent with the standard neoclassical model of a capitalist economy. The latter construct assumed the existence of a large number of perfectly rational individuals – with each endowed with a well-defined preference ordering and a bundle of goods. In this system, individuals knew that, by exchange, they could improve their welfare. Moreover, given zero transaction costs, they would be motivated to bargain with each other until they reached a Pareto efficient exchange equilibrium. That is, they would proceed to a state of the economy in which no actor could improve his individual position without harming someone else.

In this neoclassical model of costless transactions, perfect foresight, and perfect rationality, there is no need for a specific market organization. It does not matter whether an individual trades only occasionally or professionally, whether he goes to the next street corner or sets up a whole network of trade relationships. This is the world of general equilibrium theory² in which each actor trades with everybody else for whatever commodity he wishes, and for all dates to come. Its order consists of the (abstract) elementary constitutional rules of:

(i) private property,

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² Partial equilibrium theory of the market for one specific good is a component part of general equilibrium theory.

- (ii) contractual obligations, and
- (iii) obligations from tortuous acts.

All these rules are guaranteed by a supreme authority (the state)³, and constitute the legal basis for the perfect market of neoclassical microeconomics. The rules are ideal in the sense that they serve to coordinate the individual consumption and production plans of a mass of perfectly rational, self-seeking traders so that a Pareto-efficient allocation of all system resources can be achieved.⁴ In effect, then, the order, or organization, of perfect markets is fully described by the elementary constitutional rules and their enforcement mechanism.

By contrast, the New Institutional Economics (NIE) envisions a much less perfect world than the one just considered. It presupposes the existence of positive transaction costs, the absence of a comprehensive set of futures markets, imperfect foresight, and the presence of boundedly rational economic actors. Conditions are such that specific markets and their characteristics are of definite interest. Some of the markets are formally established and organized like the London Stock Exchange, eBay, weekly town markets, and annual fairs. Others are informally, or semi-formally, established and set up by intermediaries, or by producers. Hence, institutions such as the automobile market or the real estate market appear. These specific markets can be conceived as privately formed and operated public goods that are based on sets of particular formal or informal rules (in addition to the elementary constitutional rules noted above). Some of the markets operating in an economy evolve spontaneously, however, such as the black market for U.S. cigarettes in Frankfurt (Main), Germany after World War II, the “Polish Market” in Berlin after the collapse of the Berlin Wall in 1989, etc.⁵ But, in general, most specific markets are established, or “made”, by identifiable people (such as the producers of new products) even though they may contain spontaneous elements.

In what can be termed a “neoinstitutional” system, an individual who plans to buy or sell a particular commodity necessarily faces two (interrelated) institutional choice problems. That is, he first has to choose (or establish) a specific market organization within which to undertake trade in the commodity; and, second, he must select, within that market organization, a specific contract (a contractual governance structure⁶) to utilize in conducting exchange with a trading partner. Both issues represent non-market coordination problems. The initial problem is that of coordinating individual plans among many suppliers and demanders; the second is a problem of coordinating individual plans between two parties – viz., a supplier and a demander. From the standpoint of the present collection of essays, the first coordination problem, as the choice of a “market organization” within which traders are to do business, is the one to which significant attention will be given. The second organizational problem, the choice of the governance structure of an exchange contract is the subject of, e.g., William-

³ A simplification, cf. North (1990, 58)

⁴ Monopolies are irrelevant (Demsetz 1968, 61).

⁵ On the rise of open-air markets all over Eastern Europe in the 1990s see Sik and Wallace (1999); Karazman-Morawetz and Pilgram (1993) (quoted from Egbert 2007).

⁶ Williamson (1985, 32): “Organize transactions so as to economize on bounded rationality while simultaneously safeguarding against the hazards of opportunism.” --- Since large numbers of contracts are incomplete, the parties to a contract must agree, either explicitly or tacitly, “about the procedure [the ‘constitution’] that will be employed to deal with problems that may arise in the future” (Macneil 1974, 753).

son's transaction-cost economics (which has, i.a., important application to the theory of the firm).

A central objective of the NIE approach is to consider the implications of given institutional arrangements for economic behavior. With respect to markets, a basic point often made by NIE writers is that the marketers' common goal is to lower their costs of transacting. This seems plausible at first thought but more has to be said because the assumption of the NIE include (besides positive transaction costs) the idea that human agents are boundedly rational and have imperfect foresight. That is, we face the need to consider the effects produced by a number of variables, and it becomes difficult to determine which institutional arrangement is more "efficient", or socially preferable, to another. For example, we might like to know which of two real existing markets, A or B, has the more desirable design features. But, unfortunately, it is difficult (if not impossible) to make such a judgment. Market A may be said to be superior to B because it economizes on transaction costs to a greater degree than does B. On the other hand, market B may appear to be more adaptive to certain possible changes in the economic environment than A, and better suited to the cognitive limitations of its potential users. How to assess the relative significance of different institutional characteristics that cannot necessarily be reduced to a common measure obviously presents challenges. Arguably, however, the situation described is even harder to deal with if it is accepted that the ultimate aim of institutional structures is to generate utility (welfare) for a stipulated group of people (as the citizens of a given nation). For, insofar as a change in, e.g., market arrangements tends to bring about change in a system's economic/social outcome, some individuals are likely to gain and others to lose. That is, some people may feel better off with option A and worse off with option B, while a different set of people in the system hold the reverse opinion. Then a social welfare problem exists. And since compensation of the losers by the gainers is normally not a practical possibility, any solution reached concerning the choice of A or B will be arbitrary – i.e., based on value-judgments and decisions on the relative "deservingness" of the respective groups of people involved, or based on political power.

As was explained earlier, the organization of "perfect markets" is fully described by the ideal of an abstract legal order – the elementary constitutional rules. When entering the more realistic world of the NIE, though, market organizations have to include, in addition, certain more concrete aids to trade. It is important to note, therefore, that a number of practical economic and social arrangements, which we now take for granted, had to be devised painfully over time in order to facilitate the effectiveness and growth of the market economy. These are things such as the common usage of money, common accounting of time, common units of measurement, common locations of trade (as local markets⁷, an internet platform), the organization of the pricing mechanism (as auctioning, rigid prices cum advertising, wage bargaining between unions and employers). It is also true, of course, that any specific market order, or market design, has to find ways of dealing with certain basic activities of trade such as: search, inspection, bargaining, contract execution, control, and enforcement.⁸ Moreover, the manner in which these basic functions are accomplished has great practical significance in the friction-filled NIE world. Hence, we shall be concerned with this literature.

⁷ Local markets are extended to large area markets ("nationwide" or "global" markets).

⁸ As illustrated in Furubotn and Richter (2005, Ch. 7).

Despite the efforts made by neoinstitutional economists to date, there is, unfortunately, no systematic theory of markets currently available that deals satisfactorily with the complete range of problems extant in an NIE world. What can be found, however, are explanations in the NIE manner of why, under certain circumstances, the basic activities of trade (noted above) are organized in one particular fashion rather than another. These arrangements deserve attention. Thus, a few prominent examples from this literature are reprinted in the present volume to illustrate this particular approach. It can be hoped, though, that the writings chosen point up certain fundamental theoretical issues in the field, and serve to increase understanding of how a deeper, more comprehensive institutional economic theory of markets may be developed.

In the interest of clarity and simplicity, the six elementary transaction activities of concern will be reduced to three categories. These are:

1. Precontractual activities (search and inspection)
2. Contracting (contract formation)
3. Postcontractual activities (execution, control, and enforcement).

The reprints presented in this collective volume, and our comments on the respective papers, will follow this classification scheme.

1. Precontractual Functions of Trade: Search and Inspection⁹

Search and inspection are specific informational problems that require attention in an economic system having non-zero transaction costs. Stigler (1961) was the first to analyze the search for product prices. Subsequently, Nelson (1970) extended Stigler's approach to the search for information about product quality.¹⁰ He noted that information about quality could be secured not only by way of search but also through experience, and that: "Experience will be used when search becomes too expensive" (318). Accordingly, Nelson distinguishes between "search goods" and "experience goods". Relative to this classification, typical search goods are cameras, furniture, china, glassware, and floor coverings. Typical experience goods are radios, television sets, tires, batteries, automobiles, and bicycles.

Advertising as a vehicle for conveying information plays a role in the case of search goods, but personal inspection is also important (as, e.g., search for an apartment, a suit, a hat, etc.). Interestingly, misleading advertising is said to result in costs to the advertiser, for "he suffers a decline in his credibility for future advertisements and pays the costs of processing non-buying customers" (Nelson 1974, 730). Therefore, "consumers can have some confidence that the advertising of search qualities bears a close relationship to the truth" (730). Such confidence, however, is much less likely to exist in the case of experience goods: "The

⁹Reprinted papers are indicated in **boldface type**

¹⁰ Nelson assumes that consumers already know where they can obtain each of the options open to them. Their information problem is to evaluate the utility of each option. He defines search to include any way of evaluating these options subject to two restrictions: (1) the consumer must inspect the option, and (2) the inspection must occur prior to purchasing the brand (1970, 312).

major control that consumers have over the market for experience qualities is whether they repeat the purchase of a brand or not” (730). In short, consumers cannot expect much direct information from advertising concerning experience qualities. What they can get, though, is important indirect information: “The consumer can learn that the brand advertises. I contend that this is the useful information that the consumer absorbed from the endorsement of announcers, actors, and others who are paid for their encomiums. These and other advertisements for experience goods have no informational content. Their informational role – beyond the relation of brand to function – is simply contained in their existence” (732). Advertisement for experience goods is of particular interest to neoinstitutionalists because advertising outlay can be interpreted as a means to save on transaction costs. Thus, the activity plays a part in explaining the creation of a market organization. Moreover, viewed in this way, advertising is not (necessarily) socially wasteful.

Relative to the question of inspection, two contributions from the informal New Institutional Economics literature are noted: a paper by **Barzel (1982)** and one by **Kenney and Klein (1983)**.

Barzel (1982) argues that the problems and the costs associated with measurement pervade, and significantly affect, all economic transactions. Understandably, errors in measurement are too costly to eliminate entirely. We know that the values of equally priced items will tend to differ, and thus people will spend resources to capture the difference existing in valuation. Such resource expenditure, however, is wasteful, and it is hypothesized that traders can generally agree on methods that help to reduce this kind of resource use. A customer’s random selection from an already optimally sorted commodity will serve to avoid the excessive expense of oversearching. For example, a mutual agreement among traders may be reached to suppress some readily obtainable information in order to preempt opportunities for excessive measurement (Barzel, 1982, 48). In practice, a variety of measures can be agreed upon that help marketers to lower measurement costs. As a result, there are product warranties, share contracts, brand names, vertical integration or simply suppression of information (like selling oranges in sealed bundles).

Kenney and Klein (1983) provide an interesting example showing how oversearching can be prevented. The case in question comes from the experience of the Central Selling Organization (CSO) of the DeBeers Group, which, at one time, sold most of the world’s gem-quality uncut diamonds. The authors suggest that the cartel’s selling organization contributed to a reduction of search cost by minimizing buyers’ oversearching for information. The procedure utilized was as follows. Stones were sorted according to shape, quality, color, and weight in more than two thousand categories. Despite this, variations in the value of stones within each category were substantial. But to limit oversearching, stones of each category were sorted by DeBeers into imperfectly homogeneous categories and sold in preselected blocks to preselected buyers at non-negotiable prices. The dominant position of DeBeers in the world diamond market when this policy was in effect made it possible for such arbitrary rules to be enforced. Specifically, the monopolistic seller was able to insist that if buyers rejected the sales offer they were to be banned from any further dealings with DeBeers. Ostensibly, the policy was advantageous to buyers since it permitted buyers to maintain a long-term business relationship with DeBeers. And the relationship enabled buyers to earn rents whose

present value was greater than the present value of the earnings stream they would otherwise achieve if they rejected sights of lower than average quality. “Since these rents are lost if the buyer decides to reject a sight and is terminated from the list of invited buyers, a wealth-maximizing buyer will not generally reject sights ...” (Kenny and Klein, 1983, 506). While the logic here is easily grasped, the whole DeBeers system rests on monopoly power, and it is not clear that society would not gain from a more competitive market even if such change would lead to increased search costs.

Another way to help reduce search and inspection costs is for individuals to use personal contacts. Granovetter (1974/1995), for example, showed that personal contacts represented the method most widely employed by highly qualified people¹¹ to find out about jobs. Interestingly, the majority of those polled was only weakly tied to their contacts¹², and saw their contacts only occasionally or rarely. There are, of course, some strongly tied contacts, and direct or second and higher order ties, informal or formal relations, etc.¹³. It is obvious that social networks facilitate search and inspection of the objects of exchange – or, as **Powell (1990, 304)** argues – networks “are particularly apt for circumstances in which there is a need for efficient, reliable information”, and they “are useful for the exchange of commodities whose value is not easily measured”. Central to these properties are reciprocal patterns of networks that are enhanced by long-term relationships. Powell does not share Williamson’s belief “that the bulk of economic exchange fits comfortably at either pole of the markets-hierarchy continuum”. This would, presumably, represent too mechanical a view (298 f.). Rather, “network forms of organization” should be seen as being the more general forms of organization – with “markets and hierarchies” constituting only special cases. Be that as it may, Powell reports on interesting cases of market organization in: craft industries (construction, publishing, film and recording businesses), industrial districts or clusters (in Germany, Italy, Japan, and Sweden), strategic alliances (common in technology-intensive industries), and vertical disaggregation (such as the downsizing pattern in the Italian textile industry or the American automobile industry). To these cases, one could add as well regional clusters like Silicon Valley (Porter, 1998, ch. 7). The rationale for the network forms of organization is based, according to Powell, on three main factors: know-how, the need for speed, and trust. These elements are critical components of networks that further knowledge sharing – a practice typical of industries characterized by rapid technical progress (Richter, 2003).

The Maine lobster market offers a graphic example of the network character found in an implicitly agreed upon market organization. **Acheson (1985)** gives a detailed description of this case. The actors involved are: lobster fishermen, lobster dealers and cooperatives, wholesalers, pound operators, trucking providers, retailers, restaurants, hotels, supermarkets, etc. Only a few vertically integrated firms exist (embracing units ranging from dealerships to wholesale operations). The actors noted are able to entertain mutually agreed upon, long-term vertical business connections. Normally, a fisherman will sell to only one dealer; dealers and cooperatives sell only to a small number of pound operators, wholesalers, etc. In this scheme, fishermen behave usually as price takers with dealers, who buy all of the lobsters their fish-

¹¹ Professional technical and managerial workers of a Boston suburb.

¹² Cf. Granovetter (1973) on the “strength of weak ties.”

¹³ See the „Social network conceptual toolkit” Smith-Doerr and Powell (2005, Fig. 1).

ermen offer for sale. At the same time, restaurants, hotels, etc. want a steady supply of lobsters to come to them, and to be able to charge a fixed price for lobsters. These conditions represent the constraints with which dealers, cooperative managers, pound operators, etc. must contend in negotiating. They do this by contacting each other, vertically and horizontally, to exchange information and speculate on the way the market is going (e.g., by considering impending changes in the supply of lobsters and anticipated price changes). Acheson (1985, 396) stresses that the way lobsters are bought and sold have strong relational features.¹⁴ Individual identities matter on both sides of the market. In fact, the relationship between nearby dealers and wholesalers is some mixture of cooperation and competition. In other words, the situation described is a characteristic example of a market order understood as a system that involves mutual agreement among a multiplicity of people.

Another aspect of the trading functions of “search” and “inspection” (under conditions of positive transaction costs) is discussed by **Podolny (1993)**.¹⁵ His analysis is concerned with quality competition among experience goods.¹⁶ Product quality is said to be “signaled” by the status of the producer in the market. Podolny defines “a producer’s status in the market as the perceived quality of that producer’s products in relation to the perceived quality of that producer’s competitors’ products” (830). In short, producer’s status is viewed as a signal of the underlying quality of a firm’s product. Social relations mediate the link between quality and status. There is, however, only a loose linkage between a signal and its meaning; and, in consequence, quality shifts need not be realized immediately by consumers. Moreover, lags between quality shifts and the perception of quality changes by consumers are not only caused by technical impediments but, to a degree, also by the affiliations of consumers to social networks of brand users such as “Mercedes drivers” or “BMW owners”.

The core of Podolny’s model is formed by three assumptions, which are coupled with his implicit assumption of positive transaction costs, and the idea that producers are boundedly rational profit maximizers. The basic assumptions are as follows:

- (a) Consumers cannot determine the quality of a product (i.e., an “experience good”) prior its actual use or consumption.
- (b) The market status of a producer is taken to be a signal of quality on which consumers can and do rely for their decisions.
- (c) A producer’s relations with others in the market mediate the linkage between status and quality. Such interaction creates inertial tendencies in the formation of exchange relations by biasing evaluation of the products (loc. cit, 835). Quite simply, the ties existing between actors play a significant role in the formation of perceptions of quality.

An important economic consequence of a producer’s position in the market network is that it affects his gross revenue and costs. Podolny argues that: “For a producer of a given level of quality, additional status is most likely to translate into increased revenue, either in form of higher prices or greater market share” (837). Supposedly, then, for higher-status pro-

¹⁴ In the sense of Macneil (1978).

¹⁵ Though he mentions the term “transaction costs” only in passing (1993, 838).

¹⁶ Podolny states: “quality is, by definition, unobservable before the transaction” (834).

ducers, advertising costs for attracting a given volume of business are lower (838). The same can be said for “transaction costs” in the sense of convincing customers of the quality of the product. Finally, financial costs may also be lowered by an increase in status (839). And, in general, the presumption is that: “the costs for a given quality output will be lower for the higher-status producer than the lower-status producer” (840). This conclusion is interesting but seems to be based on a special set of circumstances. Specifically, the notion appears to be that advertising becomes increasingly effective in producing higher status as the status level sought is raised, and that quality claims do not have to be supported by costly real improvements in product characteristics. These cost-benefit trends, though, are surely not inevitable.

It is true, of course, that the status of a firm is not fixed. With some effort, firms can shift their status positions within a market. Moreover, multimarket identity is not inconsistent with the dynamics of a status-based model. Thus, the incorporation of status processes into the understanding of market competition is well worth considering, and such action would provide a good basis for the development and extension of a sociological approach to markets (868). Finally, it should be noted that Podolny further illustrates his analytical themes by examining the pricing behavior followed by investment banks in the underwriting of corporate securities. The findings here provide empirical support for his status-based model of market competition.

The comments made above have attempted to introduce some of the current thinking found in the literature on search and inspection, and to show how ideas from the New Institutional Economics underlie such thinking. An important theme advanced by the exponents of neoinstitutionalism is that deviations from the ideal type of perfect market may lead to workable solutions to real-life market problems. For example, long-term personal relationships (i.e., implicit or explicit relational contracts) between buyers and sellers, and between competitors, can serve to facilitate the trading functions of search and inspection. In effect, traders here implicitly agree to a particular organization of search and inspection. Networks of relational contracts make this accommodation possible. Explanations of this sort are plausible but, like other findings of neoinstitutional analysis, they do not emerge from a precisely defined axiomatic construct comparable to that employed in general equilibrium theory. By its nature, the neoinstitutional world is more complex and fuzzy than the neoclassical world. Hence, specialized models developed from different sets of initial conditions are encountered.

2. Contracting: Agreeing on Prices and Other Stipulations

Markets, in the economic sense, can be understood as mutually agreed upon organizations designed to facilitate the exchange of private property rights among parties. From the perspective of the NIE, the way a market is organized is explained by the existence of positive transaction costs, and boundedly rational agents possessed of incomplete foresight. There is no ideal (or “perfect”) market organization that is able to serve as a benchmark for the determination of “market efficiency” (as is assumed in neoclassical microeconomics). Moreover, what has to be recognized is that while the arrangements of a capitalist system protect private property from theft or physical change brought about by outsiders, property is not protected from changes in its market value. All private owners must bear market risk. Consequently,

their property may be “expropriated” by the legal actions of their economic competitors. As **Alchian (1965/1977, 132)** has put it: “If I open a restaurant near yours and win away business by my superior service, you are as hurt as if I had burned part of your building.” For the owner who is harmed this is clearly a problem; and such market-risk effects may also be a problem for society in a “neoinstitutional” world. That is, society may suffer if, lacking a comprehensive set of futures markets, the coordination of investment decisions cannot be accomplished effectively. For example, overinvestment in particular sectors may occur because, in a neoinstitutional economy, the price system does not represent a fully adequate signaling device. Each individual investor operates largely in ignorance of what other investors intend to do, and thus each can form the wrong impression of the profitability promised by his project. What may appear to be a good investment choice from an individual’s point of view can turn out to be a disaster if many (noncommunicating) firms invest in the area simultaneously.

In theory, one alternative to this difficult situation would be to allocate resources through hierarchies rather than markets. Public instead of private ownership could be instituted. But, such policy would raise serious problems concerning how to control the public activities – i.a., to avoid biased allocation induced by bribery. Alchian (1965/1977, 140) in his discussion of the pros and cons of private and public ownership, puts forward two reasons in favor of “specialization of ownership” (i.e., private ownership). These are: (1) Concentration of rewards and costs more directly on each person responsible for them, and (2) Comparative advantage effects of specialized applications of (a) knowledge in control and (b) of risk bearing.” As for (2-a), the specialization in knowledge, Alchian’s remark reminds one of Hayek’s (1945) argument in favor of (capitalist) markets as opposed to Lange’s (1938) idea of markets in a socialist economy. The second point (2-b), ownership specialization in risk bearing, calls attention to the fact that people’s attitudes toward risk differ: “Exchange of ownership will reallocate risks among people, leading to greater utility in the sense that exchange of goods does” (Alchian, 1965/1977, 144).

Alchian makes clear, however, that his remarks are not to be understood as a general condemnation of public ownership. At the same time, he notes that one should keep in mind that “the presence of one kind of relative deficiency does not justify a switch to another agency – which has other kinds of deficiencies.” (148) In other words, it can be argued that while the price system in a neoinstitutional economy does not perform in the ideal way that the frictionless neoclassical model suggests, this fact does not justify the abandonment of market capitalism. Traditionally, neoclassical economists have focused their interest on the formation of prices on markets. The corresponding institutional framework of perfect competition is consonant with that of an auction. That is, traders agree explicitly to a public sale. They agree that an auctioneer will administer price negotiations between sellers and buyers according to an established rule (e.g., an English or Dutch auction). This implies a formally peaceful “conflict” in the sense of Weber (1968, 38). The resulting competitive equilibrium price is illustrated by the intersection of a demand curve and a supply curve. And, significantly, this theory has been corroborated for the case of a double auction by **V. Smith (1962)** in his famous experiment on competitive market behavior. It can be asserted, then, that if traders agree and are able to organize their market according to the conditions of perfect com-

petition¹⁷ (the classical ideal type of market organization), prices will converge to their competitive equilibrium (the intersection of the Marshallian Cross) even if the number of traders is small.

Of course, under the conditions of the NIE, such an arrangement among traders represents more a theoretical concept than a practical option. Obviously, the informational and other requirements needed to effectuate the scheme would be extraordinary and extremely costly. To organize all markets of an economy in the form of a commodity exchange or an organized stock market (where prices adapt to changes of demand or supply in fractions of a second) would demand an elaborate, strictly monitored and enforced institutional framework. Such a structure is just not feasible. What is found in the real world is a system in which most prices are administered. They are usually announced by one side such as the dealers in our example of the lobster market, or the producers in the case of producers' markets, and afterwards are kept constant for a time. As a result, prices are comparatively rigid – a phenomenon that characterizes all advanced economies. Yet, as **Carlton (1986)** has shown, the degree of price rigidity differs greatly across industries. In some industries, the average price does not change for periods of well over one year, while, in others, the price changes quite frequently. One reason for price rigidity is found in the existence of “menu costs” (or the costs of changing price labels). These costs are not negligible as has been shown by the work of such writers as Levy, Bergen, Dutta, and Venable (1997). Other reasons for keeping prices unchanged are said to be concern about the emergence of price wars, and the possibility of alienating customers (Blinder et al., 1998, 85). Differently expressed, the explanation could be said to lie with the price setters' desire to cultivate long-term relationships with their competitors and customers.

Interestingly, empirical work on rigid prices exploded during the last decade (Campbell and Eden, 2007). The motivation for this line of research, however, was not to support transaction cost economics but to prove the non-neutrality of money and, as a consequence, the effectiveness of an active monetary policy. It is true, of course, that “rigid” prices are not permanently fixed and are changed from time to time. Although traders are not constantly changing prices, they may try to approach equilibrium prices by a weekly or monthly trial and error process. Thus, for example, Campbell and Eden (2007, 1) report that there is evidence that grocery stores “extensively experiment” with their prices.¹⁸ At the same time, there may also exist tacit price agreements among competitors as indicated by oligopoly theory. More-

¹⁷ Traders are faceless strangers, traded products are perfectly homogenous, traders are perfectly informed on the good's quoted or traded price.

¹⁸ Campbell and Eden (2007, 2) report that according to their study “Increasing the difference between an item's price and the average price for the same item at other stores substantially raises the probability of a price change. However, the probability of changing a price close to average far exceeds zero, and most price changes occur with the original price close to average. In simple menu-cost models, extreme prices arise from the erosion of a fixed nominal price by other sellers' adjustments. Therefore, they are older than average. We find that most extreme prices are relatively young (less than a month old). That is, grocers deliberately select extreme prices, which they then quickly abandon. Taken together these results suggest to us that sellers extensively experiment with their prices.” (Emphasis added).

over, suppliers may change their prices only after the announcements made by one firm – the price leader (Stigler, 1952, 234).

Representatives of the New Institutional Economics, such as **Alchian and Woodward (1987)**, argue that rigid prices are the result of a convention between sellers and buyers. Thus, these writers explain the practice of posted prices as follows: “Posted prices, announced publicly and maintained until publicly revised, are prices at which the posting party will transact any amount. All parties obtain the same price; the price to a particular party could not be changed while all others were getting better prices” (127). The authors give as examples tuna and salmon fishing: “where the fishing boats are reliant on a unique buyer–processor. Similarly, a fixed price guarantee occurs in many agricultural product markets where farmers plant crops relying on a unique buyer–processor” (127). Another reason for price rigidity is that, in long–term business relationships that require relationship–specific investments: “opportunistic price changes (intended to effect a hold–up) are not clearly or cheaply distinguishable from price changes to which the parties would have agreed had the demand and supply environment been mutually foreseen” (Alchian and Woodward 1987, 128). These explanations draw upon neoinstitutional reasoning. A key understanding here is that contractual relations develop between firms that are suppliers and those that are buyers (Macneil, 1978). Hence, a vertical form of cooperation can appear. That is, given specific investments on both the supply side and the demand side, a lock–in effect occurs; and, in this setting, quantity adjustments have much better incentive compatibility properties than do price adjustments. As Williamson (1985, 76) argues: “price adjustment proposals involve the risk that one’s opposite is contriving to alter the terms within the bilateral monopoly trading gap to his advantage.”

Of course, bilateral relationships between firms engaged in trade with each other do not constitute the only area in which price rigidity is utilized. The basic argument for rigidity could also be applied to the relationship between a seller and his many customers (i.e., the seller’s clientele). All parties here may make specific investments. Then, with all locked-in to a degree, price inflexibility can be interpreted as a “protection of the expropriable composite quasi–rent of dependent resources” (Alchian and Woodward, 1987, 128). Similar arguments may be drawn upon to explain wage rigidities because the employment relationship is often a strongly relational contract with specific investments taking place in human and physical capital on both sides.

In contrast to the situation in neoclassical microeconomics, contracts in a neoinstitutional system are not considered as a means by which transacting parties fully define future performances and allocate risks of future contingencies (as in the Arrow–Debreu model). In a neoinstitutional context, such complete contracts are ruled out because the existence of transaction costs, bounded rationality, and limited foresight make their formulation prohibitively expensive. Thus, in cases of long–term relationships, it becomes rational not to specify contractually all elements of performance and, instead, to enter into cooperative exchange relationships that are able to adapt to unforeseen events.¹⁹ For these cases, the term relational

¹⁹ „This includes internal and external dispute-resolution structures. At this point, the relation has become a minisociety with a vast array of norms beyond the norms centred on exchange and its immediate process.” (Macneil 1978, 902).

transaction (or contractual relation) was introduced in **Macneil** (1974, 1978). Contract, in the traditional legal sense of the word, relates to a discrete transaction. And in the model of perfect competition such transactions are assumed to take place in a social vacuum. Real-life transactions, however, are embedded in social relations. Macneil's premise emerges from his belief in the pervasiveness of "relation" in the post-industrial socioeconomic world. Indeed, he says of "relation" that "its dominance seems constantly to be increasing" (1974, 694). Networks of contractual relations play an important role in market organization (as was illustrated above by Acheson's essay on the Maine lobster market). In the lobster market case, market organization rested on the expectation of market participants that the existing exchange relations would be ongoing and continue into the future. As Macneil says: "Such relational expectations, if firmly grounded in fact, assure 'satisfactory' exchanges in the future without the need for present specificity, present communication or present measured reciprocity. A vast amount of economic activity is carried on at least partly on that basis" (1974, 718).

Note that it is possible to think in terms of a whole spectrum of different types of contracts as defined from a legal standpoint (Macneil, 1974, 738). At one extreme, we have the classical contract (regulating a discrete, one-time transaction), while at the other end of the spectrum we have relations or arrangements such as marriage and employment relations (Furubotn and Richter, 2005, 156 f.). Contracts of the extreme "relational" pole entail strong personal involvement, are long-term, and anticipate the possibility of trouble as a normal part of the ongoing association between the parties to the contract. Significantly, any difficulties or problems that do, in fact, arise are to be dealt with by means of cooperation and other restorational techniques (Macneil, 1974, 738–40). Less complex than the twelve restorational "concepts suggested by Macneil is his three-way classification of contracts (1978). Here, he distinguishes among the classical, neoclassical, and relational categories of contract law, and this approach has relevance for the NIE and this collective volume. Macneil (1978) emphasizes the need to plan flexibility into long-term contracts, or to leave gaps in the planning that can be filled in as required. The justification for these provisions is that, with the increasing duration and complexity of contracts, it becomes too difficult and too time consuming to agree *ex ante* on how to respond to potential problems (as assumed in neoclassical contract law). In the long-term cases, of course, very different adjustment processes of an ongoing-administrative kind are needed that include internal and external dispute-resolution structures. Macneil's "relational contract law", then, seems to be consistent with the neoinstitutional view of the economy since the latter envisions Knightian uncertainty, and questions the capacity of boundedly rational agents to establish optimal arrangements that will comport ideally with all the events that emerge in an ongoing system.

It was noted earlier that a key economic problem for neoinstitutionalists is to explain why one institutional arrangement (governance structure, order, or constitution) can be said to be preferable to another. But, despite the importance of this issue, a clear and unambiguous determination of the "best" institutional structure cannot easily be made. Since major institutional reorganization will almost certainly bring about gains for some people and losses for others, value judgments must be involved, ultimately, in institutional choice (Buchanan, 1960, 111–116), (Furubotn, 1987). But, apart from this matter, it is also arguable that the special conditions existing in a neoinstitutional system (i.e., positive transaction costs and decision

makers having limited ability to acquire and process information) rule out the possibility of actual optimization in most cases of practical importance (Gigerenzer and Selten, 2001). In short, there is controversy in NIE circles about the extent to which certain formal mathematical concepts drawn from orthodox neoclassical theory can be adapted to the requirements of neoinstitutional analysis. Thus, Williamson, recognizing the uncertain future that is characteristic of a neoinstitutional environment, argues that: "... a governance structure obviously reshapes incentives. To focus entirely on ex ante incentive alignment, however, is a truncated way to study organization – especially if all complex contracts are unavoidably incomplete and if adaptation is the central problem of economic organization" (2000, 599). From this standpoint it is crucial to be able to adjust governance structure to the actual economic situations encountered over time by effecting "a discriminating match, according to which transactions are aligned with governance structures so as to promote adaptation of autonomous and cooperative kinds" (2000, 599). In principle, then, the institutional solution adapted at any time can take the form of one of the extreme options (markets or hierarchies) or of any form falling within these limits.

Relational contracts are designed to offer agents some flexibility to deal with unforeseen events. Such contracts may be bilateral or multilateral (as, e.g., bilateral cooperation between buyer and seller in a market exchange, or multilateral cooperation among all buyers and sellers within a market). These are joint actions involving two or more individuals. In the latter case, the term collective action is used in the literature. Collective action can be private (the market, the firm), or public (the community, the state). Recognizing this dichotomy, the New Institutional Economics operates at two levels of analysis. There is a macroscopic level that deals with what Davis and North (1971, 6) call the institutional environment, and a microscopic level that the same authors call institutional arrangements. **Williamson's (1979)** transaction–cost economics is concerned with the latter area.

Transaction–cost economics suggests that by focusing on transaction costs, and seeking those arrangements, or governance structures, that economize on such costs, a decision maker is able to determine favorable organizational designs (Masten 1996, 4). Although this approach may tend to oversimplify the problem of institutional choice, transaction–cost economics does provide useful insights into the process of contracting. In particular, TCE emphasizes that since major frictional forces exist in a neoinstitutional economy, complete contracts, dealing with all conceivable contingencies, cannot be written. Inevitably, then, any contracts that are put forward will contain loopholes and, in consequence, there will be a need to revise or adapt contracts periodically to adjust them to conditions that were unforeseen initially. In principle, courts might be relied upon to enforce or modify contractual obligations, but actually this procedure tends to be relatively costly and inefficient. Particularly when transaction–specific investments are involved, and the hazards of "ex–post" opportunism are faced, governance by court ordering will usually have to be supplemented, or even replaced, by private ordering. This line of analysis is of direct importance to the interpretation of works in the present collection because of the apparent practice of marketers to utilize relational contracts.

Williamson's transaction–cost economics approach indicates that there is no black and white contrast to be made between "markets" and "hierarchies". Also made clear is the fact that, in a neoinstitutional world, the concept of Pareto optimality has no applicability. **Dem-**

setz (1969) emphasized the same point with respect to the market failure issue raised by public policy economists. He argues that the relevant choice in the real world is not between an ideal norm (Pareto efficiency) and an existing “imperfect” institutional arrangement. Indeed: “This nirvana approach differs considerably from a comparative institution approach in which the relevant choice is between [various] alternative real institutional arrangements” (1969, 1). The core reason for the disparity noted is found in the assumptions made about the environment in which activity takes place. In a neoinstitutional world, decision makers are not idealized “perfectly rational beings” but individuals who differ widely in respect to their abilities, initial resource positions, information endowments, risk preferences, and so on, and who face a great variety of constraints that limit their options. These obstacles are, for the most part, ineluctable and cannot be swept away by any simple means available to society. Nevertheless, individuals have motivation to undertake continuing search for better information and improved methods of decision-making. What is important in this kind of environment is what “works”, and therefore, diverse institutional solutions can be expected to emerge. Moreover, survival of diverse forms is possible because, even with competition, an organization need only be relatively efficient, rather than ideally efficient, to maintain its position in the system (Alchian, 1950).

3. Postcontractual Activities: Execution, Control, and Enforcement

The functioning of any market, or market society, demands that a set of elementary constitutional rules be established together with a mechanism to enforce the rules. The key areas to be regulated would be: (i) the property rights of individuals, (ii) the procedures for the transfer of rights according to contractual agreement, and (iii) the liability of individuals for contractual obligations. The enforcement mechanism consists in the social sanctions in effect – which may be supplied by the traders themselves, by the organizers of specific markets, or by public bodies such as the city or state. Fundamentally, market economies depend on the support of a public authority in its capacity as legislator, administrator, and enforcer of the elementary constitutional rules of the game. In addition, public authorities play an important role in the creation of operational rules such as national (or international) agreements on the unit of account and means of payment, on the international calendar²⁰ and time zones,²¹ on common measures and weights,²² etc. Yet, the role of a public authority involves a contradiction. For, a state “strong enough to protect property rights and enforce contracts is also strong enough to confiscate the wealth of its citizens” **Weingast (1993, 287)**.²³ Hence, thriving markets require not only an appropriate system of constitutional rules: “... but a secure political foundation that places strong limits on the ability of the state to confiscate wealth” (ibid.). What is needed is a credible commitment by the state to respect private property and individual contractual obligations. But even though this is an old and well-discussed insight of the

²⁰ The Gregorian Calendar was decreed by [Pope Gregory XIII](#) on [24 February 1582](#) by [papal bull *Inter gravissimas*](#) and slowly accepted by all trading nation states.

²¹ Based on Greenwich Time as suggested by an international congress 1889. It took a couple of decennia until it was globally accepted. Germany introduced the Central European Time in 1893.

²² The metric system was almost globally introduced in the 19th century. Exceptions among large states are England and the USA. Germany introduced the metric system in 1868.

²³ Furubotn and Richter (1993).

science of the state, it had little impact on the advice being offered by economists to the emerging democracies immediately after the breakdown of the Soviet Union and its allies. Apparently many of the economists “doctoring the ailing economies of central and Eastern Europe” believed that the necessary institutional features of a free market would appear and “be the automatic outcome of getting the prices right through elimination of price and exchange controls” (North, 1993, 12).

The central question of Weingast’s paper concerns the limits that can be placed on the ability of the state to seize and appropriate wealth. He asks: “What makes these limits credible, i.e., what makes them binding on political actors?” Weingast goes on to focus on the critical role of federalism for protecting markets in both England and the United States²⁴ and argues that federalism must have played a major role in protecting the growth of economic markets. In his response to Weingast’s paper, **Bernholz (1993, 317)** argues that federalism seems to be neither a necessary condition for a free market economy, as the success of Hong Kong, Japan, France, and Taiwan demonstrates, nor a sufficient one “... if not combined with a strict division of power, as the example of modern England shows” (1993).

The fact is, however, that the perfect constitutional state does not exist. In the real world of positive transaction costs, incomplete foresight and boundedly rational agents, there is no legal, administrative, or judicial perfection – and certainly no perfect control of governmental powers. Inevitably, formal institutional arrangements such as constitutions, laws, contracts, and charters are incomplete. They are to be completed (ideally) by “community norms based on intense social interaction” (Aoki, 2001, XI ii), or “private orderings” between the contractual parties (Williamson, 1983, 520). The problems involved are central to the new institutional economics.

The possibility that private ordering can take place has importance for neoinstitutional theory. And it is said that self-enforcement of contractual obligations is perhaps the most elegant form of private ordering. Its simplest manifestation is seen in simultaneous exchange. If the quid and the quo of exchange are separated over time and space, though, the type of self-enforcement found depends on the frequency of trade. Two extreme cases can be distinguished. These are: (a) Traders trade only once with market makers, or (b) indefinitely often with market makers. With respect to case (a), parties to non-simultaneous exchange can help themselves by conveying valuable assets such as hostages or collateral, or by unification with the other party (as in marriage or vertical integration). **Kronman (1985)** exemplifies and discusses these three cases and others.²⁵ He warns that the existence of the state and its enforcement machinery does not make the three safeguarding techniques superfluous. In fact, we know that provision of collateral is a current method used for securing money loans. Apparently, “the legal right to enforce a promise can reduce but never eliminate the insecurity associated with all temporally asymmetric exchanges” (1985, 25). But, of course, to use these

²⁴ He could have added 19th century Germany.

²⁵ He adds as fourth technique “hands tying” - “giving once reputation in the community for your promise to perform” (loc. cit. 18), – which requires repeated exchanges on the side of the hostage giver. It belongs insofar to our second extreme.

techniques has its costs. “Both hostages and collateral create their own forms of opportunism and are costly too ...” (1985, 29).

In case (b), if traders trade indefinitely often with others, agreements can be enforced by the threat of breaking off the business relationship. Insofar as the system is assumed to be such that perfect rationality, perfect foresight, and zero transaction costs hold, detection of wrongdoing is *certain*. Therefore, rational actors, who will always desire to maintain profitable trade, have no choice but to avoid dishonest acts. One’s reputation for honesty becomes an issue. The basic hypothesis of the model, as **Telser (1980, 29)** describes it, is “...that someone is honest only if honesty, or the appearance of honesty, pays more than dishonesty.” This statement, however, is a bit confusing because if merely the “appearance” of honesty is possible, various dishonest strategies are conceivable – and decision makers are not “perfectly rational.” In any event, the fundamental logic of this approach indicates that self-enforcing agreements will probably not work if, first, the sequence of transactions has a known end point (like an agreed upon marriage for two years). Presumably, the end point must at least be uncertain. Second, the expected horizon must be relatively long. The longer the expected horizon, the greater is the return to the parties from adherence to the terms of their agreement (Telser, 1980, 44). Third, if the agreement must be played out under highly uncertain conditions, the situation is not conducive to self-enforcing contracts. This is so because the prospective gains to the principals are not clear, and their interest in collaboration is correspondingly dimmed.

From a technical standpoint, there is another issue connected with the role of uncertainty. The self-enforcement model is based on game theory, and thus requires very detailed information about what will eventuate over time. The informational requirements here are, of course, inconsistent with the basic NIE assumptions. Nevertheless, many theorists sympathetic with the aims of neoinstitutionalism are convinced that game theory represents an important tool kit for institutional economists provided there is awareness of its strong assumptions. Binmore brings this position out clearly:

Game theorists believe that they can demonstrate formally how even the most selfish individuals will often find it in their own enlightened self-interest to cooperate with their neighbors in a long-term relationship. For this purpose they study the equilibria of repeated games. ... Little of what they have discovered in this area so far would have come as a surprise to David Hume (1739–40, bk. 3) who already articulated essential mechanisms some two hundred years before. However, these insights are now firmly grounded in formal models (1992, 21).

The point is that a repeatedly played game of conflicting interests (say a prisoner’s dilemma game) can be transformed into a game of coinciding interests (in which the agents cooperate and achieve the efficient solution). Its solution is a Nash equilibrium of the recurrent (strategic) “supergame” about the method of playing repeatedly a given “underlying game” (here, the prisoner’s dilemma game).

The question of how to interpret a multiplicity of equilibria in a game was addressed by Shelling (1960) with his focal-point concept. Schotter (1981) developed, starting from Lewis (1969), what can be called the institution-as-an-equilibrium-of-a-game approach (Furubotn

and Richter, 2005, 8). According to this view, an institution is defined as a salient Nash equilibrium of a recurrent “supergame” about the way a given “underlying game” is repeatedly played. It may be plausible to assume, then, that an efficient equilibrium is a salient Nash equilibrium – if we start from an unhistoric point “zero”. But life is an ongoing process, and thus institutions are generally path dependent. A plausible “salient” Nash equilibrium could then be the precedence – but this equilibrium need not be efficient. Since no actor has an incentive to change his strategy if no other does, an institution could conceivably persist in a “bad” (inefficient) Nash equilibrium even though each single player would like to reach an efficient one. Such a set of events might explain the observed persistence of inefficient social structures (Eggertsson, 2005).

Self-enforcing contracts are of particular interest if the contractual terms relate to hard to measure product characteristics such as the “taste” of a Hamburger (**Klein and Leffler, 1981**, 616). In cases of this sort, “market arrangements such as the value of lost purchases which motivate transactors to honor their promises may be the cheapest method of guaranteeing the guarantee” (1981, 616). The fundamental theoretical result of the Klein–Leffler article is that market prices above the competitive level and the presence of non-salvageable capital are means of enforcing quality promises. The role of brand-name capital investments, which are “sunk investments”, thus becomes understandable. “What assures high-quality supply is the capital loss due to the loss of future business if low quality is produced” (1981, 627). The role for advertising can also be seen in this light. For,

... when consumers do not know the minimum quality guaranteeing price, the larger is the firm’s brand-name capital investment relative to sales, [and] the more likely its price premium is sufficient to motivate high quality production. Competitive investment in brand-name capital is now no longer constrained to assets which yield direct consumer service flows ... For example: Luxurious storefronts and ornate displays or signs may be supplied by a firm even if yielding no direct consumer service flows. Such firm-specific assets inform customers of the magnitude of sunk capital costs and their supply of information about the quasi-rent price-premium stream being earned by the firm and hence the opportunity cost to the firm if it cheats (1981, 630).

The authors repeat the argument by Nelson (1974) that advertising, by definition, provides valuable information to the consumer – namely, information that the firm is advertising (1981, 631 ff.). The paper by Klein and Leffler, then, argues “that consumers can successfully use price as an indicator of quality” (1981, 634). The authors refer in this context to the informed buyers who know of the existence of a gap between firm price and salvageable costs. In other words, consumers appreciate that the existence of a price premium gives them “quality assurance”.²⁶

One of the basic assumptions of self-enforcing mechanisms is that the misbehavior of players is public information (costlessly achieved), and that the threatened retaliations are sufficiently balanced (i.e., equally hurtful). However, in the real world, actors can be incom-

²⁶ On the game theoretic background see Fudenberg and Tirole (1991, 168 ff.) on „Repeated games with varying opponents.“

pletely informed because of transaction costs, and the threat of retaliation may be unconvincing because of differences in the size or power of the actors involved. It is worth noting in this connection that although transaction costs and differences in size or power play no (essential) role in game theory, game-theoretic explanations of self-enforcement mechanisms are still applied to explain real-world situations that are characterized by costly information and power asymmetries. In such models, special institutions or organizations are assumed to provide low-cost information about each player's behavioral history and to coordinate community responses.

Numerous papers on self-enforcement mechanisms exist in the literature. Five significant examples of this writing are discussed in the following pages. The first three of these reproduced represent frequently quoted articles on certain historic institutions that served to encourage long distance trade – viz., the papers of Milgrom, North and Weingast (1990), Greif (1989, 1993), and Greif, Milgrom and Weingast (1994). The fourth paper by Baron (2002) describes one of today's most successful business innovations – the reputation mechanism of eBay's online market. The last paper by McMillan and Woodruff (2000) reviews systematically the different self-enforcing arrangements that exist under conditions of incomplete information.

Milgrom, North and Weingast (1990) analyze the “law-merchant” system of the Champaign Fairs of the twelfth and thirteenth centuries that introduced the special institution of the “law merchants”. This approach involved the use of private judges drawn from the commercial sector who administered the Lex Mercatoria (a private code governing commercial transactions). The authors argue that, as trade communities grew larger, it became:

“... too costly to keep everyone informed about what transpires in all trading relationships, as a simple reputation system might require. So the system of private judges [the Law Merchants, LM] is designed to promote private resolutions of disputes and otherwise to transmit just enough information to the right people in the right circumstances to enable the reputation mechanism to function effectively for enforcement” (1990, 3).

Two techniques were used to save on information costs for traders:

(1) “A merchant could not enter the Fair without being in good standing with those who controlled entry, and any merchant caught cheating at the Fair would be incarcerated and brought to justice under the rules of the Fair. So anyone a merchant met at the Fair could be presumed to have a good reputation ...” (1990, 20).

(2) “Any party can visit the LM prior to finalizing a contract. At that time, for a cost ..., the party can query the LM for the records of previous judgments about any other player” (1990, 10).

The possibility that traders have of asking questions about the commercial history of trade participants had a second advantage. It:

(3) “provides an opportunity for the judge to collect payments for his services even if no actual disputes arise. As applied to the Champagne Fairs, the local lord or his agents could appoint honest judges, register transactions, and tax them” (1990, 3).

The core version of the Milgrom–North–Weingast model “is based on the presence of a special actor – a ‘judge’ or ‘law merchant’ (LM) who serves both as a repository of information and as an adjudicator of disputes.” The LM’s authority includes the ability to award damages if the defendant is found to have cheated the plaintiff. But payment of the damage awarded is voluntary in the sense that there is no state to enforce payment. The authors argue that the LM system is a low cost way for disseminating information about traders so that the person seeking information is not required to undertake widespread investigation. Moreover, the seeker need not know his party’s whole history but merely whether there are outstanding judgments involving the party. In effect, then, the LM system is a centralized record keeping system (1990, 15). Finally, it should be noted that the honesty of the LM judges is explained as a consequence of their administering the Lex Mercatoria for a fee. They receive compensation for their services so “that the LM business is itself valuable and [the] LMs may wish to maintain their reputation for honesty and diligence” (1990, 16). In short, arrangements are such that judges must remain (within limits) honest functionaries who cannot be bribed to falsify information about traders’ misbehavior. The authors argue that the institution of the LM arose to make the reputation more effective by communicating information. And, seen from this perspective, it is plausible to say that the “importance of state enforcement was not that it provided a means of enforcing contracts where one previously did not exist. Rather, it was to reduce [further] the transaction costs of policing exchange” (1990, 21).

The logic of the system just discussed is clear, but questions might be asked about the way in which the reputations of traders were established. That is, if information was accurate and local authorities allowed only merchants with good reputations to enter the Fair, there is at least some reason to ask why these honorable individuals would possibly change their behavior once admitted to the Fair and risk permanent exclusion.

In any event, Greif (2006) has pointed out that a very effective institutional arrangement, the “community responsibility system” (CRS), permitted impersonal exchange without any knowledge about individual traders prior behavior. According to Greif, it was used widely in premodern Europe. Under this system, a major advantage existed because trade could take place safely and securely between merchants without the need of any knowledge of a trading partner’s past conduct, or the expectation of future trade, or the necessity of reporting a trader’s misconduct to others. The CRS mechanism worked because any local political/economic community (as city A) had significant interest in protecting its merchants’ ability to trade with other communities (as B, C, ..., Z), and would lose this capacity (via retaliation by other cities) if it failed to safeguard the property rights of alien merchants or failed to enforce contracts impartially on their behalf. In other words, if an (alien) merchant from city B was wrongfully deprived of his rights by a merchant in city A, the political authorities of A would take action to ensure that the claims of the B merchant were satisfied. The authorities had incentive to act in this way since they wished to protect the interests of the total mercantile class in A to trade with other cities. As Greif says, this arrangement is worth considering because: “The community responsibility system constitutes the missing link in understanding the institutional developments that led to the rise of impersonal exchange and modern markets.” (2006, 232)

In thinking about this general area of research, it is important to understand that new institutional economic historians are not “historicists” in the sense of Popper (1950, 51). They do not suggest – as Karl Marx did²⁷ – that society will change “along a predetermined path that cannot change” (Popper *ibid.*). Nor do they hope to test a universal law of history acceptable to science on the basis of the observation of a unique historical process. Historical processes, however, do consist of a series of recurring functional components,²⁸ such as the elementary functions of trade. And these elements may be reduced to testable hypotheses on organizational mechanisms (“organizational templates”) that underlie the working of specific economic institutions (as, e.g., the market). Economic theorists can proceed in this manner. And their theories are based, characteristically, on two types of hypotheses. The hypotheses involve: (i) human behavior and (ii) the institutional environment that influences behavior. An example of the latter is found in the conditions for “perfect markets” noted by Stackelberg (1948) as: “indifference concerning the location, time, quality, and personal properties of markets, commodities, and traders”.²⁹

In this historical work, **Greif (1993)** offers an example of a repeated merchant–agent game (the formal properties of which are reviewed briefly by Aoki (2001, 48–71)). Specifically, Greif examines the organization of a coalition, or economic institution, of Jewish traders, the Maghribi. These traders pursued complex, long–distance trade in the Mediterranean region during the eleventh century. Seeking efficiency and security, the Maghribi organized an informal principal–agent arrangement with which to conduct their affairs. In this construct, the traders were the principals and their employed “overseas agents” were the agents. The latter accompanied the sea transport of goods, searched for buyers, negotiated and concluded purchasing contracts, monitored the transfer of goods, and secured payments. Under the conditions that prevailed, complete contingent contracts between the principals and agents were, of course, impossible because of the lack of foresight. Also impossible was the direct monitoring of the agents by the principals. And fraudulent agents could not be dealt with through court ordering. Nevertheless, despite these unfavorable circumstances, the Maghribi merchants were still able to devise a system that offered them some protection. This took the form of an agreement with the agents having the following provisions. The agents were to be, or become, members of an economic institution – the group of traders of the Maghribi. They could earn premiums for good behavior. But, if any agent deceived his principal just once, he was punished by being barred for life from any further assignments from the merchants of the Maghribi group. Moreover, if a fraudulent agent tried to become a principal (a merchant) himself, a Maghribi agent was free to deceive him. That is, no Maghribi tradesmen or merchants would punish the deceptive agent in the usual manner. Therefore, the would–be principal having a tainted record would soon be driven out of business. In this fashion, “... the

²⁷ “When a society has discovered the natural law that determines its own movement, even then it can neither overlap the natural phases of its evolution, nor shuffle them out of the world by a stroke of the pen. But this much it can do: it can shorten and lessen the birth-pangs.” A formulation due to Marx in his preface to *Das Kapital*, Vol.1, July 1867 quoted from Popper (1960, 51).

²⁸ For the „functional“ approach see Turner and Maryanski (1979).

²⁹ Stackelberg (1948, 219 ff.): “*Keine räumliche, zeitliche, persönliche oder qualitative Unterschiede*” (Literally translated: No local, temporal, personal or qualitative differences).

Maghribi traders established a relationship between past conduct and future economic rewards. As a result, agents resisted the short-term gains attainable through deception ...” (Greif, 1989, 881).

The papers discussed so far concern “... institutions used to overcome contractual problems among individual merchants active in long-distance trade.” Individual merchants, however, were not the only important parties. “The rulers of the trading centers at which the merchants met and brought their goods were an important independent force. Trading centers needed to be organized in ways that secured the person and property of the visiting merchants.”

Greif, Milgrom and Weingast (1994) interpret merchant guilds in the light of a repeated-game model which leads to the conclusion that guilds emerged to allow the rulers of trading centers to credibly commit themselves to the protection of the personal safety and property of alien merchants. The guilds centralized information about rulers’ behavior and about disputes among merchants, and were able to use effective collective actions to apply sanctions against breach of promises by rulers (city governments). Basically, guilds provided merchants with both the leadership and the information transmission capability required for coordinated action. In theory, at least, they could decide when to impose a trade embargo and when to cancel it (1994, 755). Moreover, members were free to obtain information from guilds concerning disputes between their members and other traders. This kind of analysis of city-trader relationships, however, seems to be somewhat problematic. Modeling activity as equilibria of repeated games is not appropriate because of the differences in power that exist between city and foreign traders. Further, the interposition of a merchant guild, as the agency organizing communication and coordination between traders, does not necessarily lead to reputation equilibria. This is so because individual traders have no incentive to participate in the boycott of a city. To be effective, merchant guilds, like modern labor unions, have to be strong enough to force members to follow guild directives rather than to serve their individual interest (1994, 771). The authors do not deny that merchant guilds were cartels but maintain that they originally served as countervailing power centers against the rulers of trading centers (cities), and thus facilitated trade expansion. On the other hand, in the course of time, when larger political units emerged and took over the functions of merchant guilds, the guilds did not necessarily disappear but were transformed into monopolistic organizations that may have hindered the expansion of trade (1994, 773).

We know that self-enforcing agreements or, more generally, private ordering tends to develop not only in the absence of public order (as in medieval Europe) but also in the context of existing public order (in the “shadow of the law”). The case of the private ordering in the eBay community of traders illustrates the latter situation. Different from the preceding examples, though, eBay’s self-enforcement mechanism was designed by a visible hand – the founders and managers of eBay. The example reveals that the institution-as-an-equilibrium-of-a-game approach is employed by economists not only to explain past developments. In the eBay case just considered, it is applied to develop and justify ongoing business strategies such as that used by eBay.

Baron (2002) gives a detailed description of the online auction market that is provided by eBay. As might be expected, the market in question is rather imperfect. Traders are

anonymous and remote. Thus, buyers cannot examine the items before bidding, and have to pay in advance for items they have not inspected. On the other side, sellers have little recourse if a winning bidder refuses to pay (2002, 254). Despite such drawbacks, though, trade flourished in this market, and eBay turned out to be one of the true successes of the Internet. Presumably, success was based on the existence of trust among members of the eBay community of traders. Indeed, it is trust that represents eBay's principal asset: "eBay's strategic focus is to support and expand this community" (2002, 246). The centerpiece of that support was a multilateral online reputation mechanism based on published reports describing the outcomes of actual transactions undertaken. It appears that this mechanism generated incentives similar to those in a long-term relationship between a buyer and seller. The mechanism, in fact, would seem to have many of the same features as the institution of law merchants – with the Internet serving the informational and reputation-accounting functions as well as facilitating dispute resolution. A community based on trust is, of course, vulnerable to (outright) fraud. Yet experience showed that fraud remained rare, and could be covered by insurance against fraud (2002, 272). Baron's general assessment of the eBay case is, therefore, that: "... the internet allowed an online reputation mechanism to support trust among anonymous traders, most of whom would not have repeated bilateral exchange. The reputation mechanism was multilateral and based on feedback provided by the parties to a transaction. This mechanism was the heart of eBay's strategy of building a community and sharing in the value created for its members" (2002, 272).

It has been said that: "... in communities where people hide behind their anonymity, private order, if it is to operate at all, must be organized" (**McMillan and Woodruff, 2000, 2458**). This generalization concerning the private ordering of contractual relationships seems to be correct. History suggests that while private order organizations emerged during past millennia in quite diverse settings, all work in similar ways. That is: "An organization such as a market intermediary (wholesaler) or trade association disseminates information about contractual breaches and coordinates the community's response to breaches. The usual sanction is to boycott the offender" (2000, 2458). In their article, McMillan and Woodruff provide a systematic review of work done by economic historians on private ordering. The papers considered are based largely on the problem defined in prisoner-dilemma games, and on the results of a survey of the role of private ordering in former soviet-type economies. With respect to the game-theoretic material, they emphasize two ways to counter the self-defeating incentives of PD games. One is the law; the other is found in the repetition of PD games and the implied threat of retaliation. If the legal system functioned perfectly, contracts would never need to be self-enforcing. A frictionless legal system would always work at least as well as relational contracting. In practice, however, "even when laws exist, their application and enforcement may not be cost effective or even possible" (2000, 2425). It follows that, even in countries with functional legal systems, private ordering (the use of self-enforcing mechanisms) may complement or even substitute for public ordering. The advantage of private ordering is that the market participants are generally better informed about actual contractual issues than judges. "... They possess greater expertise in monitoring other participants conduct, ... their decisions can be more nuanced and ... they can consider information that cannot be introduced in court ..." (2000, 2425). But it is also understood that there can be disad-

vantages of private ordering. These “range from economic inefficiencies of exclusion and collusion to social costs of racial discrimination and criminal violence”.

McMillan and Woodruff define the formulation of contracts based on private instead of public or legal order as relational contracting. That is, they use the term (and concept) of “relational contract” in a different sense than Macneil (1974) who first introduced the term as a way of viewing incomplete contracts.³⁰ The authors distinguish between bilateral and multilateral relational contracting – which they first discuss from the standpoint of spontaneous ordering. Bilateral spontaneous contracting in the authors’ sense requires some degree of mutual dependence of the parties, and thus the threat of breaking off business relations (as in Telser’s model) is ruled out. An example would be the “clientalization” in Moroccan bazaars that arises because of a lack of an organized market for information (2000, 2430). Multilateral spontaneous contracting may develop if community ties are strong enough so that the provision of information and the coordination of retaliation need no special organization. McMillan and Woodruff go on to discuss four other examples of this kind of spontaneous ordering. They find that private ordering becomes more difficult if information about breaches and coordinating responses to those breaches requires some definite organization. They speak of “organizing private order”, mentioning as examples for an organized private order the Law Merchants (Milgrom, North, Weingast, 1990) and the Merchant Guild (Greif, Milgrom, Weingast, 1994). After listing and discussing ten further examples of organized institutions (2443 ff.), the authors conclude: “The organized institutions divide along several characteristics. Some institutions provide only information, while others sanction their own members for failure to sanction defectors.”

Finally, McMillan and Woodruff give attention to the interaction that can occur between private and public order using the results of a survey taken in former soviet-type economies (2000, 2446 ff.). “The survey asked the managers about the ability of courts, other government agencies, or private parties to enforce contracts with customers and suppliers. Overall, just over two thirds (68%) of those surveyed said courts could enforce contracts with customers.” In addition, trade associations turned out to have a significant effect on business trust in Eastern Europe. “Geographic distance adds to the complexity of relationships, making shipping, payment, quality inspection, and other issues more difficult.” (2450) Apparently, though, there is no evidence that courts or trade associations support long distance trade. Instead, wholesalers provide useful assistance (2450). In their summary, the authors repeat that: “While private order fosters economic efficiency by making gains from trade realizable, it sometimes also harms efficiency by excluding new entrants from trading or by achieving price collusion.” And they end by saying that: “Private order can usefully supplement public law, but cannot replace it.” One might add that a well functioning legal order is and remains the basis of a well functioning market economy.

³⁰ Relational contracts, in the sense of Macneil, are contracts that do not try to take account of all future contingencies but are nevertheless long-term arrangements in which past, present, and expected future personal relations among the contractual parties matter (Macneil 1974, 753). Therefore, such contracts are, to a degree, *implicit, informal, and nonbinding*. Self-enforcement, in a concrete sense, plays an important role here (Furubotn and Richter 2005, 173).

4. Final Remarks

The argument has been made in the literature that there are two possible justifications for the use of conventional maximizing models in applied microeconomics (Thaler, 1991, 254). One justification, based on the familiar “as if” position, is that maximizing models are good predictors. The other is that markets ensure that agents have to follow rational optimizing behavior in order to survive in a competitive economy. Practical experience, however, indicates that, in many situations, optimizing models fail to produce the good results claimed for them. Writers of the NIE School are, of course, particularly concerned with the limitations of traditional analysis. Hence, they assert that greater understanding of real-world economic behavior can come about only if attention is given to the roles played by transaction costs and bounded rationality in shaping events. These new assumptions, pertaining to economic “frictions” and human cognition, are said to be “crucial” because they represent assumptions on which the conclusions of microeconomic theory are “sensitively” dependent (Solow, 1956, 65). Arguably, then, the NIE line of research is promising and can reasonably be expected to lead to more robust descriptive theory over time. Nevertheless, given the complexity of formulating a comprehensive model of a neoinstitutional system, work goes forward slowly. Indeed, at present, there exists no systematic new institutional economic theory of the market. On the positive side, though, the beginnings of such a construct are to be seen in the research that has been done in explaining how the basic functions of trade (search, inspection, bargaining, contract execution, control and enforcement) can be handled in a neoinstitutional world. Writings in this area have been featured in the present volume. And the hope is that, by presenting examples of this NIE literature and related works, readers will be able to gain greater insight into the true nature of the market problem.

Anyway, we have seen, the market is not just “supply and demand determines the price.” To function properly, it demands a set of rules that regulate not only the price mechanism, but also the other basic functions of trade like search, inspection, contract execution, control, and enforcement. Independent of whether these rules evolved spontaneously or were made by identifiable people, they must be well designed and well implemented. As the present sub prime mortgage crisis illustrates, the quality and execution of these trading rules is vital for the functioning of the market itself (of the market as an organization). But the requirement poses a problem. Since the realization of an efficient institutional design for the market is difficult to accomplish, this fact may lead some observers to the conclusion that the only reasonable course of action for reform is to impose a set of highly restrictive rules on market operation. The thought here is, presumably, that only by strict regulation can the chaos and corruption engendered at times by market activity be checked. Opportunism and self-seeking behavior, however, are endemic to human society, and may be carried to counterproductive extremes in any system. Thus, from the standpoint of the NIE, there is danger of reform that goes too far and, through over-regulation, causes the loss of the flexibility and innovative potential, which market freedom promises. In short, the possibilities inherent in effective institutional design should not be underestimated. For the NIE, there is hope that cleverly conceived institutional arrangements can shape behavior and induce decision makers to undertake socially productive activity.

It should also be noted that another way to deal with Coase's complaint concerning the neglect of broad market theory would be to discuss specific market organizations as special arrangements designed to accommodate the six elementary functions of trade specified above. That is, consideration could be given to cases in which certain special purposes are served by market organization – as, for example, to facilitate trade in rare pieces of art (auction), in financial titles (stock exchanges), etc. But, unfortunately, no NIE studies of specific market organizations exist. To date, authors interested in neoinstitutional economics seem to be occupied with seeking the practical answers to problems of the economics of information (as in search), and, in particular, the problems related to asymmetrical information (as in cases of inspection and contract execution). Such work is undertaken with a critical eye on the theoretic answers of game theory (as in contract theory). But, regardless of the way one views these special lines of investigation inspired by game theory, the volume of this literature forthcoming (including the papers reproduced in this volume) indicates that game-theoretic material can hardly be neglected. If nothing else, the writings on the phenomena of self-enforcement and its relation to (temporarily) stable business relationships certainly demand attention. What is also significant, of course, is the fact that new institutional economists, unlike neoclassical theorists, reject the use of “perfect markets” as the benchmark for evaluating the economic quality of markets (i.e., their “efficiency”). Instead, they try to give reasons why so-called market “imperfections”, or deviations from the neoclassical ideal, may actually give rise to economic advantages. The development of this basic theme has real importance for the advance of descriptive economics, but it is clear that much more is to be done along these lines if the NIE model is to offer a serious challenge to the received mainstream doctrine.

References

- Acheson, J.M. (1985), "The Maine Lobster Market: Between Market and Hierarchy", *Journal of Law, Economics, and Organization*, 1, 385-398.
- Alchian, A.A. (1950), "Uncertainty, Evolution, and Economic Theory", *Journal of Political Economy*, 58, 211-221.
- Alchian, A.A. (1965), "Some Economics of Property Rights", *Il Politico*, 30, 816-829, reprinted in A.A. Alchian, *Economic Forces at Work*, Indianapolis: Liberty Press 1977.
- Alchian, A.A. and Woodward, S. (1987), "Reflections on the Theory of the Firm", *Journal of Institutional and Theoretical Economics*, 143, 110-137.
- Aoki, M. (2001), *Toward a Comparative Institutional Analysis*, Cambridge, MA
- Arrow, K. J. (1962), "Economic Welfare and the Allocation of Resources for Invention," in: A Report by the National Bureau of Economic Research, New York, *The Rate and Direction of Inventive Activity: Economic and Social Factors*, Princeton N.J.: Princeton University Press.
- Baron, D.P. (2002), "Private Ordering on the Internet: The eBay Community of Traders," *Business and Politics*, 4, 245 – 274.
- Barzel, Y. (1982), "Measurement Cost and the Organization of Markets", *Journal of Law and Economics*, 25, 27-48.
- Bernholz, P. (1993), Comments on "Constitutions as Governance Structures: The Political Foundations of Secure Markets," *Journal of Institutional and Theoretical Economics*, 149, 312 – 320.
- Binmore, K. (1992). *Fun and Games: A Text on Game Theory*. Lexington, Mass.: D. C. Heath.
- Blinder, A.S., Canetti, E.R.D., Lebow, D.E. and Rudd, J.B. (1998), *Asking About Prices. A new Approach to Understanding Price Stickiness*, New York: Russell Sage Foundation.
- Buchanan, J.M. (1960), "Positive Economics, Welfare Economics, and Political Economy", in J.M. Buchanan (ed.), *Fiscal Theory and Political Economy*, Chapel Hill: University of North Carolina Press.
- Campbell, J.R. and B. Eden (2005), Rigid Prices: Evidence from U.S. Scanner Data, Federal Reserve Bank of Chicago, Working Paper Series.
http://www.chicagofed.org/publications/workingpapers/wp2005_08.pdf
- Coase, R.H (1937), "The Nature of the Firm", *Economica*, 4, 386-405.
- Coase, R.H (1960), "The Problem of Social Cost", *Journal of Law and Economics*, 3, 1-44.
- Coase, R.H (1984), "The New Institutional Economics," *Journal of Institutional and Theoretical Economics*, 140, 229 – 231.
- Coase, R.H (1988), *The Firm, the Market, and the Law*, Chicago.
- Davis, L. and North, D.C. (1971), *Institutional Change and American Economic Growth*, Cambridge, MA: Cambridge University Press. Demsetz, H. (1968), "Why Regulate Utilities?", *Journal of Law and Economics*, 11, 55–66.

- Demsetz, H. (1969), "Information and Efficiency: Another Viewpoint", *Journal of Law and Economics*, 12, 1-22
- Egbert, H. (2007), "The Culture of a Market: A Case Study of Open-air Horse Markets," *Journal of Institutional and Theoretical Economics*, 163, 493 – 502.
- Eggertsson, T. (2005), *Imperfect Institutions: Possibilities and Limits to Reform*, Ann Arbor, MI: University of Michigan Press.
- Fudenberg, D. and Tirole, J. (1991), *Game Theory*, Cambridge, MA: MIT Press.
- Furubotn, E. G. and Richter, R. (eds.) (1993), "Symposium on New Institutional Economics; Recent Progress; Expanding Frontiers," *Journal of Institutional and Theoretical Economics*, 149, 1 – 362.
- Furubotn, E.G. (1987), "Privatizing the Commons: Comment", *Southern Economic Journal*, 54, 219-224.
- Furubotn, E.G. and Richter, R. (2005), *Institutions and Economic Theory. The Contribution of the New Institutional Economics*, 2nd revised and extended edition, [1st ed. 1997], Ann Arbor, MI: University of Michigan Press.
- Gigerenzer, G., and R. Selten, eds. (2001). *Bounded Rationality: The Adaptive Toolbox*, Cambridge: MIT Press.
- Granovetter, M. (1973), "The Strength of Weak Ties," *American Journal of Sociology*, 78, 1360 – 1380.
- Granovetter, M. (1974/1995), *Getting A Job. A Study of Contacts and Careers*, Chicago, 2nd edition 1995.
- Greif, A. (1989), „Reputation and Coalitions in Medieval Trade: Evidence on the Maghribi Traders“, *Journal of Economic History*, 49, 857–882.
- Greif, A. (1993), „Contract Enforceability and Economic Institutions in Early Trade: The Maghribi Traders' Coalition“, *American Economic Review*, 83, 525–548.
- Greif, A. (2006), *Institutions and the Path to the Modern Economy: Lessons from Medieval Trade (Political Economy of Institutions and Decisions)*, Cambridge: Cambridge University Press.
- Greif, A., Milgrom, P. and Weingast, B.R. (1994), "Coordination, Commitment, and Enforcement: The Case of the Merchant Guild", *Journal of Political Economy*, 102, 745-776.
- Hayek, F.A. (1945), "The Use of Knowledge in Society", *American Economic Review*, 35, 519-530.
- Hume, D. [1739–40] (1969). *A Treatise of Human Nature*. Edited by E. C. Mossner. London: Penguin.
- Karazman-Morawetz, I. and Pilgram, A. (1993), "Ostgrenzöffnung als Gelegenheit - irreguläres Erwerbshandeln und seine Kontrolle," pp. 147 – 168, in: Pilgram, A. (ed.), *Grenzöffnung. Migration und Kriminalität. Jahrbuch für Rechts- und Kriminalsoziologie 1993*, Baden-Baden: Nomos.
- Kenney, R.W. and Klein, B. (1983), "The Economics of Block Booking", *Journal of Law and Economics*, 26, 497-540.
- Klein, B. and Leffler, K.B. (1981), "The Role of Market Forces in Assuring Contractual Performance", *Journal of Political Economy*, 89, 615-641.
- Kronman, A.T. (1985), "Contract Law and the State of Nature", *Journal of Law, Economics*,

- and Organization*, 1, 5-32.
- Lange, O. (1938), "On the Economic Theory of Socialism" in O. Lange, F.M. Taylor, and B.E. Lippincott, Hrsg., *On the Economic Theory of Socialism*, Minneapolis, 57-143.
- Levy, D., Bergen, M., Dutta, S., Venable, R. (1997), "The Magnitude of Menu Costs: Direct Evidence From Large U.S. Supermarket Chains", *Quarterly Journal of Economics*, 112, 791-825.
- Lewis, D. (1969), *Convention. A Philosophical Study*, Cambridge, MA.
- Macneil, I.R. (1974), "The Many Futures of Contracts", *Southern California Law Review*, 47, 691-816.
- Macneil, I.R. (1978), "Contracts: Adjustment of Long-term Economic Relations Under Classical, Neoclassical, and Relational Contract Law", *Northwestern University Law Review*, 72, 854-905.
- Marx, K. (1845), *Das Kapital*, 1. Bd., Juli 1867 [*Werke*, Bd. 23, p- 15 f.].
- Masten, S.E., ed. (1996), *Case Studies in Contracting and Organization*, New York, Oxford: Oxford University Press.
- McMillan, J. and Woodruff, C. (2000), "Private Order Under Dysfunctional Public Order," *Michigan Law Review*, 98, 2421 – 2458.
- Menger, C. (1883), *Untersuchungen über die Methode der Socialwissenschaften und der Politischen Oekonomie insbesondere*, Leipzig (Neuaufgabe Tübingen 1969).
- Milgrom, P. R., North, D. C. and Weingast, B. R. (1990), "The Role of Institutions in the Revival of Trade: The Law Merchant, Private Judges, and the Champagne Fairs, *Economics & Politics*, 2, 1 – 23.
- Nelson, P. (1970), "Information and Consumer Behavior", *Journal of Political Economy*, 78, 311-329.
- Nelson, P. (1974), "Advertising as Information", *Journal of Political Economy*, 82, 729-754.
- North, D.C. (1990), *Institutions, Institutional Change and Economic Performance*, Cambridge: Cambridge University Press.
- North, D.C. (1993), "Institutions and Credible Commitment", *Journal of Institutional and Theoretical Economics*, 149, 11-23.
- Podolny, J.M. (1993), "A Status-Based Model of Market Competition", *American Journal of Sociology*, 98, 829-872.
- Popper, K. R. (1960), *The Poverty of Historicism*, London: Routledge & Kegan.
- Porter, M.E. (1998), *On Competition*, Boston, MA: Harvard Business School
- Powell, W.W. (1990), "Neither Market nor Hierarchy: Network Forms of Organization" in B.M. Staw and L.L. Cummings, Hrsg., *Research in Organizational Behavior*, 12, 295–336, Greenwich, CT.
- Richter, R. (2003), "New Institutional Economics and Knowledge Sharing," 39 – 48 in: E. Helmstädter (ed.), *The Economics of Knowledge Sharing. A New Institutional Approach*, Cheltham, UK: Elgar.
- Schelling, T.C. (1960), *The Strategy of Conflict*, Cambridge, MA.
- Schotter, A. (1981), *The Economic Theory of Social Institutions*, Cambridge, MA.
- Sik, E. and C. Wallace (1999), "The Development of Open-air Markets in East-Central

- Europe," *International Journal of Urban and Regional Research*, 23, 697 – 714.
- Smith, V. (1962), "An Experimental Study of Competitive Market Behavior," *Journal of Political Economy*, 70, 111 - 137.
- Smith-Doerr, L. and Powell, W.W. (2005), "Networks and Economic Life", pp- 379 – 402 in: N.J. Smelser and R.Swedberg eds. (2005),
- Solow, R.M. (1956), „A Contribution to the Theory of Growth,“ *Quarterly Journal of Economics*, 70, 65 – 94.
- Stackelberg, H. v. (1948), *Grundlagen der Theoretischen Volkswirtschaftslehre*, Bern: Francke.
- Stigler, G.J. (1952), *The Theory of Price*, rev. ed., New York: Macmillan Co.
- Stigler, G.J. (1961), "The Economics of Information", *Journal of Political Economy*, 69, 213-225.
- Telser, L.G. (1980), "A Theory of Self-Enforcing Agreements", *Journal of Business*, 53, 27-44.
- Turner, J. H. and Maryanski, A. (1979), *Functionalism*, Menlo Park, CA: The Benjamin/Cummings Publ. Co.
- Weber, M. (1968), *Economy and Society: An Outline of Interpretative Sociology*. Edited by G. Roth and C. Wittich. Berkeley: University of California Press.
- Weingast, B. R. (1993), "Constitutions as Governance Structures: The Political Foundations of Secure Markets," *Journal of Institutional and Theoretical Economics*, 149, 286 - 311.
- Williamson, O.E. (1979), "Transaction-Cost Economics: The Governance of Contractual Relations", *Journal of Law and Economics*, 22, 233-261.
- Williamson, O.E. (1983), "Credible Commitments: Using Hostages to Support Exchange", *American Economic Review*, 73, 519-540.
- Williamson, O.E. (1985), *The Economic Institutions of Capitalism*, New York
- Williamson, O.E. (2000), "The New Institutional Economics: Taking Stock, Looking Ahead," *Journal of Economic Literature*, 38, 595 – 613.