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**On the Social Structure of Markets:
A Review and Assessment in the Perspective of the New Institutional Economics¹**

by

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This paper deals with the claim of sociologists that the social structure of markets matters for their performance. "Social structure" is understood in this paper as "structure of social relationships between actors". To understand the meaning of "social structure", a reasonable starting point is social network analysis. The paper starts therefore with a brief description of some basic concepts of social network analysis. Next comes a review and assessment of some of the major sociological contributions on the effect of the structure of social relationships between actors on market performance. The paper demonstrates that positive market models need to include elements of existing social networks between actors to become "sufficiently good approximations for the purpose in hand."

From an institutional economic viewpoint, neoclassical economists think of markets, roughly speaking, in terms of given formal governance structures that steer the behavior of a plurality of perfectly rational trading automatons at no costs toward market equilibrium. Trading automatons entertain no social ties among each other or with the rest of society. Only the given formal governance structure of markets matters. In contrast, economic sociologists view markets as evolving formal and informal governance structures between a plurality of real people – potential buyers and sellers – who act boundedly rational or in some other way. Social ties between traders and the rest of society play a role. Markets do not function in a social vacuum.² The informal social structure of markets matters in addition to the evolving governance structures. Finally, representatives of the new institutional economics (NIE) think of markets as lying somewhere in between the neoclassical and sociological perspectives.³ Following Williamson (1985), individuals act boundedly rational within both a given formal governance structure (the neoclassical market order) and an evolving formal or informal governance structure that actors designed by mutual agreement. Social relations become an issue. As a result, Williamsonian NIE and economic sociology overlap to a degree - which may explain the somewhat strained atmosphere between representatives of the New Economic Soci-

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² Hamilton and Feenstra (1995, 61).

³ For our view see Furubotn and Richter (2005, Chapter 7)

ology (NES)⁴ and Williamsonian NIE.⁵ By contrast, the Northian NIE is much wider. It contains the whole range of formal and informal governance structures including political markets and the systems of cognitive and moral beliefs (North 1990, 2005).

This paper is a product of curiosity. We wish, first, to get an idea of what new economic sociologists actually understand by “social structure,” second, how they explain its effect on market performance, and third, what institutional economists can learn from market structure sociology.

1. Market Structure Sociology

The arguments of market structure sociologists are to some degree influenced by the work of Karl Polanyi (1944) who heavily criticized the view of liberal economists that markets or a whole market economy would develop “spontaneously” as a consequence of individual self-interest (Hume 1739 - 40, part 2, section 2; Menger 1963, 15; Hayek 1973, 5). That view would completely disregard the results of modern historic anthropological research according to which

”.... man’s economy, as a rule, is submerged in his social relationships. He does not act so as to safeguard his individual interest in the procession of material goods; he acts so as to safeguard his social standing, his social claims, his social assets. He values material goods only insofar as they serve this end.” (Polanyi 1944, 46)

One may doubt that man values material goods only insofar as they serve to "safeguard his social standing, his social claims, his social assets." Still, it is appropriate for economists to remind themselves that human economic activity takes place against a backdrop of social relationships - that social structure matters. Actors and institutions are, as Granovetter puts it, "embedded" in a network of social relations. They

"... are so constrained by ongoing social relations that to construe them as independent is a grievous misunderstanding." (Granovetter 1985/1995, 212).

These arguments were put forward not only by Granovetter but also by Coleman (1984) or Burt (1983), Stinchcombe (1990), Abolafia (1984) and other sociologists.

The concept of “social structure” is used by sociologists in a rather wide sense. Some authors, like Fligstein, include what may be called the elementary social order of an economy. Thus, Fligstein (2001, 32) speaks of “four types of social structures” that make markets work: “property rights, governance structures, rules of exchange, and conceptions of control.”

“Each of these types of social structure is directed at different problems... Some are related to the general problem of creating a market in the first place, and others have to do with ensuring the stability of firms in a particular market.” (loc. cit. 33)

These are largely formal rules. Other authors use the term in the sense of specific *social relationships between pairs of actors* and their enduring (formal or informal) patterns given an

⁴ The New Economic Sociology was started in the 1980s at Harvard by former students of Harrison White, among them Robert Eccles (1981), Mark Granovetter (1985), Michael Schwartz. Independently of the Harvard group, several other sociologists joined battle, among them Mitchel Abolafia (1984), Susan Shapiro (1984), Viviana Zelizer (1983).

⁵ For a discussion of the relation between Williamsonian NIE and some representatives of the New Economic Sociology see Richter (2006).

elementary or even more specific (formal or informal) social order.⁶ In this paper, we'll discuss "social structure" only in the second sense, which appears to be best conceptualized by social network analysis.⁷ In fact, network analysis is sometimes described as a "fundamental tool for the study of social structures." (Wellman and Berkowitz 1988, 4). We'll therefore start with some of the basic concepts of network analysis.

2. Some Basic Concepts of Social Network Analysis

A social network consists of actors, relational ties between pairs of actors and attributes of actors (Wasserman and Faust, 1994, 18 ff., 89).

Actors may be individuals or groups of individuals (like organizations: firms, states etc.). While the NIE is dominated by the assumption of methodological individualism (Richter 2005, 171), the NES remains open in this respect. So is neoclassical microeconomics where we are used to speak also of firms, households etc. as actors.⁸

Relational ties between two actors are any kind of "social relationship" (Weber 1968, 26 ff.) "that establishes a linkage between a pair of actors" (Wasserman and Faust 1994, 18). "Social relationships" have a much wider meaning than the concept of economic "transactions" between faceless actors – like the arm's length ordering of a product or of paying a bill. They are "social actions" (Weber 1968, 22 f.) that are characterized by

"...at least a minimum of mutual orientation of the action of each to that of the others. Its content may be of the most varied nature: conflict, hostility, sexual attraction, friendship, loyalty, or economic exchange. It may involve fulfillment, the evasion, or violation of the terms of an agreement; economic, erotic, or some other form of "competition"; common membership in status, national or class groups..." (Weber 1968, 27).

Furthermore, social relationships relate to *formal or informal* social orders⁹ that actors may either observe or "more or less" violate.

As with regard to informal relations the notion of "strength" of an interpersonal tie plays an important role in the NES. Granovetter (1973, 1361) defines it as follows:

"the strength of a tie is a (probably linear) combination of the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services which characterize the tie."

Accordingly, he distinguishes between "strong ties" and "weak ties". Put in concrete terms, "ties" between prospective buyers and sellers may consist, e.g., of already well-tried exchange opportunities with other actors¹⁰ or only of hoped for trade relations.

Attributes of actors are, in the social network literature, measurements of the characteristics of actors such as "age, gender, race, socioeconomic status, place of residence, grade in school,

⁶ North (2005, 49) regards social structure as a system of norms and conventions, i. e., formal and informal rules.

⁷ Rauch and Hamilton (2001, 21).

⁸ "Delimiting the set of relevant nodes is notoriously difficult." (Zuckerman 2003, 547).

⁹ "...may be guided by the belief in the existence of a legitimate order." (Weber 1968, 31)

¹⁰ Cook, Emerson, Gilmore and Yamagishi (1983, 377).

and so on". (Wasserman and Faust 1994, 38) In the economic literature the attributes of actors are understood in a much wider sense, including also hypotheses regarding actors' given

- *individual preferences* (sociologists oppose the neoclassical assumption of given preferences),
- *choice constraints* (i.a., their formal and informal property rights in valued resources, their state of information, their contractual or conventional obligations, their institutional environment – all based on a given set of elementary constitutional rules¹¹), and
- *choice behavior* (e.g. perfectly rational maximizing subject to constraints, boundedly rational choice behavior or some other kind of behavior).

In this sense, our economic models can be translated into "economic network theories" consisting of actors, attributes of actors (including behavioral hypotheses) and relations between pairs of actors (based on a given set of elementary constitutional rules). Thus, a market can be understood as a system of network connections linking exchange relations into a single network structure (specifying the boundaries of a concrete networks¹²). However, the behavioral hypotheses of social network analysis are much wider than economists would assume:

"The network analyst would seek to model these relationships [the ties among actors] to depict the structure of a group [as a pattern of ties]. One could then study the impact of this structure on the functioning of the group and/or influence of this structure on the individuals within the group." (Wasserman and Faust 1994, 9).

According to this interpretation, the patterns of ties within a social network have causal implications. In comparison to economics, the behavioral attributes of actors are extended by the assumption that actors are able to influence each others individual preferences as well as their individual choice sets (the latter as in game theory), and that their capacity to do so depends on their location within the social network, their "strategic position". In this sense, social structure impinges on transfers between actors. In addition, sociologists' assumptions on individual choice behavior are wider than in economics. In this respect, sociologists have a more ambitious research program than economists. However, Zuckerman cautions:

"... it bears recalling that, even among sociologists, there is really no such thing as social network *theory* as much as there is social network *analysis* – a set of frameworks and tools for analyzing social structures. The great promise of social network analysis has been and continues to be its ability to give greater concreteness to sociological concepts that are relational in character." (Zuckerman, 2003, 562, emphasis in the original)

¹¹ Based, e.g., on the principles of the classical liberal state: Private property, freedom of contract, and individual liability (see e.g. Furubotn and Richter 2005, 15). Fligstein (1996, 657) criticizes the lack of such social institutions in network analysis.

¹² Though, often the actors would not be aware of those boundaries. Thus, participation in a network typically is not based on "membership status." Instead, actors can be viewed as relatively autonomous decision makers occupying "positions" in a structure which frequently extends beyond their own awareness (Cook, Emerson, Gilmore and Yamagishi 1983, 379).

Still, as we shall see, sociologists want to provide more than a systematic description of what has actually happened. They also try to explain why, i.e., they must have some theory at least in the back of their mind.¹³

Social networks are conveniently described by use of graph theory. In a *graph*, actors are represented by *nodes*, relational ties between pairs of actors by (directed or undirected) *lines* between pairs of nodes (Wasserman and Faust 1994, 95). *Directional ties* are oriented from one actor to another; they are symbolized by a *directional graph* or *digraph*. Such a graphical representation of a social network is called a *sociogram*. It can also be expressed in matrix form, i.e., as a *sociomatrix* (loc. cit., 150 ff.). A social network without any hypotheses among the attributes of actors is a much less ambitious concept. However, it could only be used for descriptive purposes (or “ex post analysis”) - like national accounting in economics. In fact, national accounts can be represented in the form of a sociogram or sociomatrix.¹⁴

So much for the time being on social network analysis. Further treatment, provided it is required, will be given below together with the presentation of the literature on the social structure of markets.

3. On the Influence of the Social Structure of Markets on Market Performance: A Brief Survey of Some of the Sociological Literature

How do sociologists explain the effect of the social structure of markets on market performance? What are their key arguments? We content ourselves with a brief review of a selection of contributions on the role of social relationships between market actors that appeared since the 70's, namely Granovetter (1974, 1985), Burt (1983, 1992), Abolafia (1984), Baker (1984), Podolny (1993).¹⁵

All studies relate to a private ownership economy and there again to what we call elsewhere the *operational rules* of the market (Furubotn and Richter, 2005, 295). They concern the market participants' *transaction activities* of search, inspection, contracting, execution, control, and enforcement. We take these as measures of market performance and indicate at the beginning of each paper's review to which of the above six transaction activities (as measures of market performance) it is addressed.

a) Mark Granovetter:

Granovetter (1974/1995) deals in his empirical study *Getting a Job* with the transaction activity of search, namely, job search of professional technical and managerial workers. In his sample, personal contact is the predominant method of finding out about jobs. Thus, the relevant factors of finding a job would be social. Job finding behavior is "... heavily embedded in

¹³ Coleman (1984, 86) writes, the central intellectual problem in the social sciences is "...the problem of moving from a model of individual behavior to a system composed of these individuals, *taking social organization explicitly into account, rather than assuming it away.*" (emphasis added).

¹⁴ As a *directed valued graph*, i.e., as a digraph of which each arc carries a \$-value (as, e.g., in Richter, Schlieper, Friedmann 1981, Ch. 3) or in form of a *sociomatrix* in which each entry records the \$-amount of the respective debit and credit booking.

¹⁵ We disregard social bargaining issues and, thus, problems of what economists call "bargaining power." They are dealt with, i.a., by Cook and Emerson (1978), Cook, Emerson, Gillmore, and Yamagishi (1983), Markovsky, Willer and Patton (1988).

other social processes that closely constrain and determine its course and results." (1995, 39). Of those people finding a job through contacts, the majority saw their contact only occasionally or rarely, i.e., were only weakly tied with their contacts. To Granovetter's surprise, the "social distance"¹⁶ was rather short between job-seeker and prospective employer. In almost 40 per cent of the cases information came directly from the prospective employer, whom the respondent already knew; about 45 per cent there was one intermediate, 12.4 per cent reported two; only about 3 per cent more than two (N = 64, Granovetter 1973, 1372). Granovetter concedes that many of his findings are easily explained in terms of rational behavior. (1974/1995, 96) The reason is that information is costly (loc. cit. 99). But also quality of the information may explain why employers and employees prefer to make use of personal contacts in securing labor market information. "They reason, correctly, that personal ties mean better information (loc. cit. 97). "Better" meaning, i.a., better filtered information. "Personal contacts narrow the range *within* this already narrowed group, and so do less cost than other methods." (loc. cit. 98).

Interjection: It thus pays for both, employee and employer of professional technical and managerial workers to maintain "weak ties" with people who are either themselves prospective employers or keep weak ties with prospective employers directly or through one or two intermediaries. The logic is simple. Had long information paths been involved, large numbers might have found out about any given job, and no particular tie would have been crucial (1973, 1372) However, "You can't get somethin for nothin!" To build (weak) connections with the right people requires time and material resources. Personal entry costs may be high, depending on ones social status which may be inherited or acquired by an expensive education. The real world market is apparently not the great equalizer - at least not for "professional technical and managerial workers." Empirical examples would be of interest.

In his "Afterword 1994" Granovetter states that, as in the past, "research in economics and research in sociology proceed separately, like ships passing in the night." (1995, 139). He argues that the economic research in the past twenty years on the dynamics of labor recruitment has not had priority on the research agendas of labor scholars; "consequently we know little more about my speculation on this subject in *GAJ* [*Getting a Job*] than we did then." (1995, 177)

Granovetter's (1985/1995) paper on the problem of embeddedness is aimed at the whole set of transaction activities: search, inspection, contracting, execution, control, and enforcement. It concerns basically the problem of the production of *trust*. In contrast to new institutional economists, Granovetter argues that social relations, not institutional arrangements, would be mainly responsible for the production of trust in economic life. His argument is directed against what Williamson (1996, 256 - 267) later called "calculative trust". Malfeasance would be seen by new institutional economists to be averted because clever institutional arrangements or safeguards make it too costly to engage in it (Granovetter 1995, 218). However, this could hardly be called "trust", because if one thinks this out consequently one comes to a bot-

¹⁶ Granovetter (1973, 1366, n. 10) defines the "social distance" between two individuals in a network as the number of lines in the shortest path from one to another. This would be the same as the definition of "distance" between points in graph theory.

tomless process of rational individuals ever thinking up new clever ways to evade one institutional safeguard after another. In such a world, everyday economic life would be poisoned "...by ever more ingenious attempts at deceit." (ibid.) Thus "... some degree of trust *must* be assumed to operate...". Needed would be an explanation of a brake mechanism for ever more ingenious attempts at deceit.¹⁷ Appealed would be sometimes to the existence of a basic or generalized trust.¹⁸ It would be hard to doubt the existence of some such generalized morality. However, it would refer only to situations like leaving a tip at a roadside restaurant far from home.¹⁹ Granovetter's embeddedness suggests another brake mechanism of deceit: "... the role of concrete personal relations and structures (or "networks") of such relations in generating trust and discouraging malfeasance." (loc. cit. 220) Standard economic theory would neglect the identity and past relations of individual transactors, "...but rational individuals know better, relying on their knowledge of these relations. They are less interested in *general* reputations than in whether a particular other may be expected to deal honestly with *them* – mainly a function of whether they or their own contacts have had satisfactory past dealings with the other." (221)

As a solution to the problem of order, the embeddedness position (the assumption of networks of relations) would be less sweeping than the "institutional arrangement" or the "general trust" position, "...since networks of social relations penetrate irregularly and in different degrees in different sectors of economic life, thus allowing for what we already know: distrust, opportunism, and disorder are by no means absent." (221) Social relations are not sufficient to guarantee trust and trustworthy behavior, "...they may even provide occasion and means for malfeasance and conflict on a scale larger than in their absence." Examples are "confidence" rackets, crimes such as embezzling, fraud pursued by teams like schemes for kickbacks. "Both enormous trust and enormous malfeasance,, may follow from personal relations." (loc. cit. 222)²⁰

Discussion: To this author's understanding, the problem of ex ante safeguards against ex post opportunism lurks behind both explanations of the production of trust or trustworthiness related to economic activities: institutional arrangements and social relations. Trust would be calculable in both cases. Both relate to problems of social order (i.e., systems of social rules): the neo-institutional approach assumes (in Granovetter's reading) ex ante agreed upon *explicit* rules (viewed as "the efficient solution to certain economic problems." 218); the embeddedness approach supposes - in addition to explicit rules - the evolution of *implicit* rules ("concrete personal relations and structures...of such relations", 220). In both cases, trust would be calculative, and in both it would be wise to think about ex ante safe guards against ex post opportunism to avoid a sad awakening. Basically, Granovetter deals with the same kind of problems as Williamson, though, in a richer and more general way.

¹⁷ Aside from the braking action of transaction costs.

¹⁸ Granovetter quotes a well known passage by Arrow (1974, 26).

¹⁹ Or the use of money? Thus Simmel (1978, 178 f.) writes: "Without general trust that people have in each other, society itself would disintegrate, for very few relationships are based entirely upon what is known with certainty about another person, and very few relationships would endure if trust were not as strong as, or stronger than, rational proof of personal observation. In the same way, money transactions without trust would collapse without trust."

²⁰ For an extension of Granovetter's embeddedness hypothesis see, e.g., Uzzi (1996) who shows that firms organized in networks have higher survival chances than do firms which maintain arm's length market relationships.

Taken at its face value, Granovetter's combative paper reads as an attack on the evolving NIE in general, on Williamson's (1975) *Market and Hierarchies* book in particular.²¹ Under its surface, however, it is more of a wake-up call for sociologists whom he warns to keep an eye on new economic institutionalists invading sociologists' own territory. If sociologists would avoid the analysis of phenomena at the center of "standard economic theory," they would "... have unnecessarily cut themselves off from a large and important aspect of social life and from European tradition - stemming especially from Max Weber - in which economic action is seen only as a special, if important, category of social action." (237) Granovetter's wake-up call turned out to be quite successful. After decades of neglect, economic sociology came alive again (Smelser and Swedberg 2005, 14 ff.).

b) Ronald S. Burt

Burt (1992) deals in his book *Structural Holes. The Social Structure of Competition* with the transaction activities of "information" (comprising in a wider sense than what we called "search and inspection"²²) and "control" (what we would subsume under "contracting"). He views markets as networks of social contacts between actors and assumes the existence of positive transaction costs. Competition is the struggle of actors for profitable positions within market networks. Competitors profit from "information benefits" and "control benefits." Information benefits result from *access* to valuable pieces of information and knowing whom to bring it to; from *timing* in the sense of being informed early; and from *referrals* to players "...you do not know personally but are aware of you" (1992, 13 f.). Control benefits consist of the advantages of players in negotiating their relationship (1992, 47) like the "tertius gaudens" position in a negotiation between two others (loc. cit. 31).

To understand Burt's concept of structural holes is not easy. We interpret the concept of structural holes as follows: Assume markets to be clusters of networks of traders. They can be represented in the shape of a disconnected graph of redundant contacts between players (e.g. loc. cit. 27, Fig. 1.6). "One cluster, no matter how numerous its members, is only one source of information, because people connected to one another tend to know about the same things at about the same time."(loc. cit. 23) Assume there exist three of such market clusters. A profit seeking new competitor ("you") would not locate himself "within" one of the already existing three clusters but instead somewhere in the "open" space between the clusters and from there try to establish non-redundant contacts with one trader of each cluster. That would enable him to obtain, so to speak, at one stroke all available information of the three market networks (loc. cit. 22, Fig. 1.4). "The information screen provided by multiple clusters of contacts is broader, providing better insurance that you, the player, will be informed of opportunities and impending disasters. ...you are assured of being the first to see new opportunities created by needs in one group that could be served by skills in another group. You become the person who first brings people together, which gives you the opportunity to coordinate their activities." (loc. cit. 23.)

²¹ I deal with sociologists' attack on Williamson's work and his defense elsewhere (Richter 2001, 2006).

²² Including information about new opportunities like "...new institutions and projects that need leadership, new funding initiatives looking for proposals, new jobs for which you know of a good candidate, valuable items entering the market for which you know interested buyers" (loc. cit., 13).

In Burt's terminology, structural holes between above three clusters are "bridged" by the non-redundant contacts that "you" (or any other competitor) entertain with at least one actor in each of the clusters. Bridges may consist of strong or weak ties (or anything in between). Information benefits travel over all bridges, strong or weak ones (loc. cit. 17, Fig. 1.6); weak ties may be even more effective in this respect than strong ones as Granovetter (1973) has shown. Control benefits, on the other hand, require strong ties (loc. cit., 28). In general, the task for a strategic player trying to build an "efficient-effective" network would be "...to focus resources on the maintenance of bridge ties." (loc. cit., 30)

Burt defines "social capital" as consisting of the social relationship between two players (1992, 8 ff.)²³. Social capital offers actors opportunities to use their financial and human capital profitably and, thus, contribute to their individual wealth (the present value of their expected net-income streams).

Discussion: The formation of social capital - as of any other kind of capital - requires the input of real resources (i. e., investments in "relation specific assets"). However, in contrast to financial or human capital, social capital is owned jointly by the parties to the relationship. No actor (of the relationship) has the exclusive ownership rights to "his" social capital (Burt 1992b, 58). Thus, who gets how much profits out of his investments in relation specific assets depends on the social quality of the relationship; in case of typical business relationships it would be a matter of contracting between the parties. In any case, however, problems of ex post opportunism or free riding are to be expected and the question is to be asked: Why should I invest in social capital if the fruits of my investments may be reaped by others? Williamson's problem of ex ante safeguards against ex post opportunism reappears in generalized form, relating to specific investments into all kinds of social relationships, from strong ties to weak personal acquaintances. Burt does not go into the details of related safeguarding issues. However, he confirms that the governance structures of relationships matter by referring to the "powerful complementarities" between Williamson's transaction cost economic reasoning and his structural hole argument (Burt 1992, 240). --- Another question Burt does not touch upon is: To what extent is the firm value of an intermediary firm of a two-sided market²⁴ equivalent to Burt's concept of social capital? How affects a merger of such intermediary firms social welfare?

c) Abolafia

Abolafia (1984) addresses in his chapter on „Structured Anarchy: Formal Organization in the Commodity Futures Market“ essentially all six transaction activities: search, inspection, contracting, execution, control, and enforcement, however, in particular the activities of search and contracting. Object is the open auction [double auction] of commodity futures held in “pits” where buyers and sellers stand facing each other in a multi-tiered ring.

²³ Social capital is a factor “as routinely critical as financial and human capital.” (Burt 1992b, 59) Note the expanding literature on social capital, cf. Sobel (2002) and the definition by Bourdieu (1986) quoted by Sobel (2002, 139): „Social capital is an attribute of an individual in a social context. One can acquire social capital through purposeful actions and can transform social capital into conventional economic gains. The ability to do so depends on the nature of the social obligations, connections, and networks available to you.” For an early definition see Coleman (1988),

²⁴ The provider of a dating club, of computer-operating system makers, video game manufacturers etc. On the general economics of two-sided markets are discussed by Rochet & Tirole (2003).

“At the opening bell traders begin making offers to buy or sell. They use hand signals and strong voices to offer and accept trades across the pit. These trades are recorded by each party to the trade. Trading does not stop after each transaction. It continues this way until the closing bell rings in the afternoon.” (loc. cit. 132 f.)

To economists such gatherings of buyers and sellers would be the representation of a perfectly competitive market. While economists are interested only in the resulting equilibrium price(s), sociologists focus on the context of all this dramatic action. In fact, what seemed to be near-anarchy is steered by a coordination and control system whose task it is “...to discover problems in the pit (e.g. under-capitalized traders or market concentration) and taking whatever corrective action necessary to protect market efficiency” (loc. cit. 147). Thus, “...commodity exchanges exercise the monopoly power of cartels in the midst of this otherwise classical competitive industry.” (loc. cit. 131)

Abolafia argues that this paradox is a central feature in the social organization of all markets. Markets are in effect a coalition of economic actors who compete with each other (as buyers and sellers) subject to an agreed upon system of “...informal norms among traders, formal rules of trade and organizational arrangements to coordinate collective action.” (loc. cit. 132) The implication is that “competitive markets do not emerge and maintain themselves ‘naturally’ ”.

Discussion: Abolafia’s paradox that traders are both, fiercely competing with each other and mutually dependent, is an interesting issue.²⁵ It plays an important role in all kinds of markets, also in developing markets like those in the field of information technology illustrated by Saxenian (1994, 46) in her Silicon Valley study:

“Even under relentless competitive pressure, an underlying loyalty and shared commitment to technological excellence unified members of the industrial community. Local firms both competed for market share and technical leadership and simultaneously relied on the collaborative practices that distinguished the region. The paradox of Silicon Valley was that competition demanded continuous innovation, which in turn required cooperation among firms.”

Thus, contrary to a much-quoted remark by Adam Smith,²⁶ it may be (or in fact is) socially useful that market participants know each other and tend their contacts (Podolny and Page 1998, 59; Granovetter 1973).

d) W. E. Baker

Baker (1984) concerns himself mainly with the two transaction activities of “search” and “contracting” in his paper on „The Social Structure of a National Security Market.“ He demonstrates that the social structure of actors matters even in such highly organized markets as security exchanges. It influences price volatility.

²⁵ As Adler and Adler (1984, 197) put it: “...*the formal market structure is supplemented and occasionally subverted by an informal social structure or network of roles, relationships and social organization.*” (Emphasis in the original)

²⁶Smith ([1776] 1976, chap. 10, pt. 2, marginal note): “Meetings of people in the same trade ought not to be facilitated.”

The type of markets analyzed by Baker reminds an economist of the well known double-auction market experiment described by Vernon Smith (1962) However, it differs in three respects:

- positive transaction costs²⁷ hamper communication between traders;

"Noise and physical separation of potential trading partners are...major impediments to the efficient communication of offers to buy and sell. Furthermore,..., a floor participant is not able to survey all potential partners to the trade. Searching for all alternatives is a costly process...." (loc. cit. 778 f.).

- Traders are allowed to act as speculators (market makers²⁸), i.e., to buy and sell for their own account during a trading period.

- Therefore, opportunistic behavior (like fictitious trading) is possible and has to be allowed for by market makers.

Due to positive transaction costs, even a well organized stock option market²⁹ will be socially structured (loc. cit., 778). The more traders, i.e., the greater the "crowd" size³⁰, the more difficult (costly) for traders to search the "other side" to find the final price.³¹ As a consequence, option market performance will be impaired; price volatility and, thus, price uncertainty increases. Opportunism becomes more of a problem (Lebleici and Salanick 1982). Social structure matters. Baker concludes:

"Limiting the size of crowds might be an effective ... way to dampen price volatility" (loc. cit., 807) and, thus, to reduce the risk of holding a position in an underlying stock market (loc. cit., 808).

Discussion: We know from market experiments à la Vernon Smith (1962) that we neither need large numbers of traders³² nor complete information of traders to have the market price converge to its competitive equilibrium level. All traders need to know, besides the quality of their traded good, are the prices at which the good is currently exchanged during the trading period. Given the rapid progress of information technology during the past 25 years since publication of Baker's article, traders may now get all the price information they need with the speed of light. However, what remains is the opportunism problem faced by market makers. There is no information technical way out, market makers have to trust their trading contacts.³³ The conservative way to cope with this problem is the establishment of personal relationships.

²⁷ Baker (1984) avoids this term in the description of his approach, nevertheless uses it in some connection towards the end of his paper (loc. cit. 806).

²⁸ A "market maker" is a professional speculator, trading for his own account. He is not permitted to act as a broker (loc. cit., 789)

²⁹ If the high transaction costs of floor trading would be eliminated by replacing it with electronic trading - however even then would be also subject to bounded rationality and opportunism (loc. cit., 806).

³⁰ A "crowd" is the aggregate of buyers and sellers of options on a particular underlying stock (loc. cit. 776).

³¹ The density of ties (Wasserman and Faust 1994, ...) between traders decreases with increasing crowd size.

³² Four traders on each side sufficed in an experiment by Holt, Langan and Villamil (1986).

³³ This is not analyzed in the Vernon Smith market experiment. Capital or asset market experiments deal with the problem of informational efficiency of markets. (Sunder 1995). They are not dealing with the problem of opportunism in the sense of trading abuses.

e) J. M. Podolny

Podolny (1993) deals in his article "A Status-based Model of Market Competition" with the two transaction activities "search" and "inspection" given positive transaction costs.³⁴ His analysis aims at, what economists call, qualitative competition among experience goods³⁵. Product quality is "signaled" by producers' status 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." (loc. cit., 830)

Different from Weber (1968) or Veblen (1953), status is viewed as a *signal* of the underlying quality of a firm's product.(831) Social relations mediate the link between quality and status. What exists and what is being expected may not correspond. There is only a *loose linkage* between a signal and that which it is supposed to represent. In other words, quality shifts need not to be realized immediately by consumers.

Lags between quality shifts and its perception 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 like "Mercedes drivers" or "BMW users". The status position of brand users would be analytically irrelevant if quality shifts were recognized immediately.

"However, the greater the decoupling, the more the status position insulates and circumscribes the producer's action and the more the producer's reputation becomes external to itself. In short, due to the loose linkage of quality and status, a niche emerges as a given constraint that the producer must confront in trying to decide upon an optimal course of action." (loc. cit., 835) [For economists, a case of monopolistic competition à la Chamberlin 1933].

As a result, high-status firms may have to stop producing, despite marginal costs are well below market price, because "status provides severe constraints on production decisions. Recognizing that profitability is bound to identity, producers halt production before it reaches a level that threatens that identity." (loc. cit. 847) In fact, that is a case of monopolistic competition. Producers charge monopoly prices.

The core of Podolny's model is formed by three assumptions which are coupled with the implicit behavior assumption that producers are boundedly rational profit maximizers:

- a) Consumers cannot observe the quality of a product prior to consummation ("experience good").
- b) Market status of a producer is a signal of quality on which consumers can and do rely for their decisions.
- c) A producer's relations with others in the market mediates the relationship between status and quality. They create inertial tendencies in the formation of exchange relations (that is ties between actors) by biasing evaluation of the products. (loc. cit., 835)

The economic consequence of a producer's position in the market network is that it affects his

³⁴ Though he mentions the term "transaction costs" only in passing (1993, 838).

³⁵ Podolny states: "quality is, by definition, unobservable before the transaction" (loc. cit., 834).

gross revenue and costs.

“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.” (loc. cit., 837)

Consumers will be more reluctant to enter into a transaction with a low-status producer than they would be with a high-status producer even if both claim to manufacture the same quality good and sell it for the same price. Empirically this manifests itself in several cost advantages for the high-status producer.

Thus, for higher-status producers, advertising costs for attracting a given volume of business are lower. (loc. cit., 838) The same can be said for “transaction costs” in the sense of convincing customers of the quality of the product and for credit costs (ibid.) Finally, financial costs are lowered also by an increase in status (loc. cit. 839). In short, “the costs for a given quality output will be lower for the higher-status producer than the lower-status producer” (loc. cit. 840).

The status of a firm is not fixed. Firms can shift their status position within a market. Further, multimarket identity would be not inconsistent with the dynamics of a status-based model. The incorporation of status processes into the understanding of market competition would provide considerable ground for the development and an extension of a sociological approach to markets (loc. cit. 868).

Discussion: Podolny (1993) has used networks as a cause and consequence of the creation of a market status hierarchy. He supplements Burt's interpretation of competition as a struggle of actors for profitable positions within a market network by adding the advantages of "status improvements" to Burt's "information benefits" and "control benefits." As a result, Podolny's considerations pour quite a bit of water into the theory of reputation equilibrium as applied by economists (e.g., Klein and Leffler, 1981; Shapiro 1983). He could have attacked it as following: If status and product quality (of experience goods) are loosely linked with each other and if producers' market status can be cultivated by other means than only costly quality improvements, producers of a "status prone culture" may find it more profitable, to invest in the promotion of their market status instead of in quality improvements of their products. But would not producers of high quality products win in the long run? Not necessarily. In the long term, a reputation equilibrium makes sense only if understood as a moving equilibrium. It may contain a long-term quality growth rate of any size. If status and product quality are only loosely linked, a moving reputation equilibrium could include a quality growth paths with a low growth rate. In a status prone society, producers may find it more profitable to invest in other means of status improvements than in the development of their product quality.³⁶ As a consequence, producers' long-term reputation equilibrium may move on a rather low product quality growth path. Producers cultural beliefs in the role of status, their particular "status culture", become an issue.

³⁶ The family of moving reputation equilibrium paths may be understood as a set of multiple Nash equilibria characterized by different long term product quality growth rates. Competitors implicitly agree to choose that reputation equilibrium path which contains the *focal* product quality growth rate ("focal" in the sense of Schelling 1960). Its size depends on cultural beliefs of actors.

Another problem is that each brand may have several status levels. Thus, General Motors sought to establish a hierarchy of brands - Chevrolet, Pontiac, Oldsmobile, Buick, LaSalle, Cadillac. There was, however, overlapping between brands. For example a high-level Oldsmobile could possess more status than a low-level Buick.

4. What Institutional Economists Can Learn from Market Structure Sociology

Basically, we learned two things: (1) A wealth of examples of informal norm systems (informal institutions) in addition to the previous state of knowledge of institutional economists (for market theory summarized, e.g., in Furubotn and Richter, 2005, Chapter 7). (2) The instrument of social network analysis and its application to market issues: All our above described examples relate to network analysis.

To summarize, we found:

- Markets are more than abstract systems of formal norms. Personal relationships, which can be described as *networks* of informal relational ties between market actors (traders), affect market performance. Traders themselves are more or less heavily embedded in a more general social network, like the local, national or global society, economy, the polity etc. Ties between actors may be anything between strong and weak relationships (e.g., historically developed exchange opportunities on the one side, passing acquaintances on the other). Cultivating weak ties is not without value. They transmit, besides white noise, profitable information, as about better paid or more interesting jobs, promising inventions, scientific insights etc. On the other hand, a dense network of strong ties facilitates the emergence of mutual trust among members of the network. Generally, long-term network relationships between economic actors ease local and global trade. Finally, exchange networks are both, difficult to build and to demolish. To destroy them by war or revolution takes more than ten or fifteen years - as is illustrated by the German *Wirtschaftswunder* of 1948 ff. in comparison with the slow adaptation of the East German economy to West Germany after German reunification of 1990.^{37 38}
- Social structure – the pattern of ties among actors - helps to ease the burden of personal uncertainty, information complexity, and limited rationality of actors. It influences individual preferences. Density of ties, structural holes, and prestige or status of actors matters. More novel information flows more likely through weak than through strong ties. Additional status is most likely to translate into increased revenue. Competition consists in competing for social positioning, it is less a matter of numbers. A new actor entering an already existing market faces the challenge of positioning him-

³⁷ As for the German *Wirtschaftswunder*, much of the pre 1933 global personal and business connections still existed or were easily revived in 1948. Big West German corporations like Mercedes, Siemens, Bosch, Leitz etc – and West German small and medium-sized firms and their networks of national and international contacts still existed. On the other hand, East Germany had lost all of its old firms and business contacts by 1990. It had to start virtually from scratch.

³⁸Rauch (2001) surveys modern sociological literature on business and social networks in international trade, though, without touching upon the causes for the above mentioned smooth and fast reintegration of the West German economy into international trade after World War II.

self among already established actors. He enjoys a strategic advantage if he positions himself in a structural hole. Building links with other actors requires sunk investments in social relationships, i.e., the formation of *social capital*.

- The apparent anarchy among real life actors who trade under conditions close to perfect competition, is socially structured. It leads to a market equilibrium provided actors observe strictly their formal market order. Actors are interested in the continued existence of their markets and tend to establish, administer, and enforce the order of markets themselves. As a result, *fierce competition and cooperation of traders goes together* – a paradox not only observed in an organized exchange but also in developing markets. Traders concentrate their trade among a few counterparties even in a formally well organized exchange.

To our judgment, “network imagery and methodology”³⁹ became the eye-opening insight of market structure sociology. Since the early 1990s, it is taken up by an increasing number of economists— among them Schmidt-Trenz (1990), Greif (1993), Rauch and Casella (1998), Kranton (1996), Kali (1999).⁴⁰ Forecasting models need to be based on more than on formal market orders or formal contractual governance structures. They need also to take into account the social organization of actors⁴¹ (their integration into the prevailing social network) to become a “sufficiently good approximations for the purpose in hand.” (Friedman 1953).

As a result, we defined the “market” in our new edition of Furubotn and Richter (2005, 315) as

...a social network consisting of (i) a set of actors who maintain customer relationships with each other and (ii) a “legitimate order” (Weber 1968) or “governance structure” (Williamson 1985), which controls the transactions between market actors. The common goal of market actors is to lower transaction costs and thus reach a higher level of individual utility. The social relations between actors plus their order or governance structures are of economic value to them and make up their “market specific social capital”. This is “produced” by the market participants’ input of real resources— specific (sunk) investments into their relationships with other actors.

³⁹ Baron and Hannan (1994, 1142).

⁴⁰ See Rauch and Casella (2001, 4).

⁴¹ Instead than assuming it away, cf. Coleman (1984, 86).

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