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Market and Hierarchy – What the Structure of Stock Exchanges Can Tell Us about the Uncertainty in Early Financial Markets

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Stock exchanges are central institutions in modern capitalism, however they do not fit into new institutional economics' explanatory scheme. Stock exchanges organize markets using formal organization components like hierarchical decision-making and membership. Therefore, they cannot be classified in terms of either "market" or "hierarchy" or some intermediate hybrid form. Instead, stock exchanges combine institutional elements of both arrangements. In this article, we argue that the difficulties that arise in theoretically classifying stock exchanges are due to an insufficient understanding of uncertainty in markets. By definition, the narrow understanding that is represented in Oliver Williamson's new institutional economics excludes uncertainty as a problem of market-based transactions. An analysis of historical exchange by-laws shows, by contrast, that uncertainties represented a considerable problem in the early securities markets. Viewed from a perspective of the sociology of markets, we argue that the dual structure of exchanges can be explained as a result of these market uncertainties. The formal membership regulations and hierarchical control of stock exchanges separated barely solvent fortune-seekers from solvent investors and served in this way as a functional equivalent to contract law.

1 Exchanges and institutional economics

According to the Oxford English Dictionary (1991), a stock exchange is "A market for the buying and selling of public securities; the place or building where this is done; an association of brokers and jobbers who transact business in a particular place or market". By contrast, a securities market according to the dictionary is "A place where stocks or securities are bought and sold", and/or "The traffic in stocks and shares at such a place". Aside from the words "market" and "place" and the addendum that an ex-

change is an "association", the definitions are identical. According to this definition an exchange is simultaneously a market and an organization. This ambiguity about the nature of stock exchanges is echoed in social scientific debates. For instance, after surveying the economics literature, Di Noia (2001: 47) concluded that stock exchanges are sometimes defined as markets and sometimes as organizations.¹

This finding cannot be reconciled with Williamson's (1975, 1985, 1991) conclusion that markets and hierarchies² represent different institutional arrangements with varying costs for specific forms of transactions. His reasoning leads to a juxtaposition of markets and hierarchies as opposing and mutually exclusive institutional forms. However, stock exchanges cannot be classified in terms of either institutional arrangement, for they are neither entirely classifiable as hierarchical organizations or markets. Nor can they be understood as hybrids in which the polar-opposite forms merge in an attenuated, intermediary form. Stock exchanges rather possess a dual structure in which both forms are strongly expressed. On the one hand, markets organized by stock exchanges embody to a large extent the pure ideal type of a market, a notion underlined by the fact that they were the blueprint for the general equilibrium model formulated by Léon Walras (Aspers 2011: 122). On the other hand, because exchanges, with their separate "internal" jurisdiction existing outside of the legal system of the state, (as we will describe in greater detail below, above all in relation to the Anglo-American countries) exhibit the decisive feature of an organizational hierarchy (in Williamson's sense, Williamson 1991: 274).³ Exchanges therefore exist in contradiction to the notion that market and hierarchy reflect two opposite ends of a continuum. How can this contradiction be explained? In the following, we will argue that it could be attributable to the specific and very narrow understanding of uncertainty that Williamson subscribes to in his analyses.

2 The blind spot of the new institutional economics: uncertainties on markets

The “parametric” uncertainty that Williamson proposes reduces the concept to the inability of individuals to anticipate potential future adaptations and to take them into account upon the contract’s drafting (Williamson 1985: 79).⁴ This concept shrinks uncertainty to a problem of contract design, irrelevant by definition for market transactions. Only recurring transactions associated with high transaction-specific costs can thus be opportunistically exploited as a result of insecurity about future developments. Due to this, contract parties in these circumstances cannot switch to alternative contracts without incurring high costs. Conversely this form of uncertainty will by definition have no importance for market transactions when these transactions are characterized by minimal or non-existent transaction-specific investments and short durations, as Williamson makes clear. “An increase in parametric uncertainty is a subsequent matter of little consequence for transactions that are nonspecific. Since new trading relations are easily arranged, continuity has little value, and behavioral uncertainty is irrelevant.” (Williamson 1985: 59)

Williamson constructs an image of markets that resembles their depiction in the orthodox neoclassical theoretical tradition, even though he explicitly rejects the latter’s “heroic” assumptions regarding the human capacity to obtain and process information. In this tradition, markets form the starting point of economic analysis in a twofold sense. On the one hand, the idealized market embodies the normative standard according to which transactions are measured. The market defines the standard for efficient exchange relationships and all deviations from this ideal are seen as “market failures”. On the other hand, the analysis begins with the market, i.e. economic relationships are first taken into consideration once the “invisible hand” has taken effect.⁵

From this perspective, the development of markets not only appears essentially unproblematic and “natural”; it cannot even be seen anymore. Beckert (2009) has convincingly criticized this point of view for its blindness to the social requirements of markets. Expanding on a critique of the behavioural assumptions made by the neoclassical market understanding, Beckert points out the uncertainties under which actual market-exchange relations are carried out. According to Beckert, it is not until the heroic rationality assumptions are rejected that the uncertainties of market transactions can be recognized. Then the social struc-

tures that serve to process and, ideally, resolve the real uncertainties can be analysed. From this perspective, markets can be understood as demanding social structures that only function when the uncertainties of real social situations are overcome or at least minimized to a tolerable degree.

3 Uncertainties in markets: A sociology of markets perspective

Beckert notes three coordination problems that must be solved for the market to establish itself under the uncertain conditions of real exchange situations. (1) The value problem connotes the difficulties in judging the value of goods and lies with the demander. (2) The problem of competition concerns the uncertainty that arises when producers are in competition with each other and concerns the issue of what competitive practices are legitimate. (3) The problem of cooperation, by contrast, refers to the relationships between suppliers and demanders and centres on the uncertainty that results from having incomplete knowledge of one’s counterpart’s intentions. According to Beckert, for a functioning market order to develop, a solution to each of the three problems must be found, in the form of binding formal or informal agreements, rules and norms embedded in institutional structures, social networks, and horizons of meaning. The development of markets, then, can be grasped as a problem of social order formation, thus making it amenable to empirical investigation.

4 The problem of cooperation in securities markets

By looking through the prism of historical literature on the beginnings of the major capitalist-oriented exchanges, like the London Stock Exchange (LSE), the Paris Bourse or the New York Stock Exchange (NYSE), it is possible to infer the epistemological value of the market-sociological-based understanding of uncertainty. Historical sources show that exchanges developed in a time of high market risk and increasing social uncertainty. The London Stock Exchange, for instance, was established as an immediate reaction to the massive increase in fraud and market manipulations at the end of the 18th century. Along with the rapidly expanded market at the turn of the century, numerous opportunities for high-risk, but also frequently highly lucrative, business deals arose that enticed a large number of professional traders, as well as unscrupulous wheelers and dealers and risk-takers, from throughout Europe (Michie 1999: 34). With a steady influx of new faces, the terms of

doing business changed: volumes and volatility increased and the market situation became more complex. With the increasing anonymity, the difficulties in assessing the trustworthiness of business partners grew. Traditional mechanisms of behavioural control such as the merchant's principles of honest trading, which were still upheld in the small, tightly knit networks before the turn of the century (Morgan/Thomas 1962: 55), lost their efficacy with the market expansion. The extent of frauds, market manipulations and payment defaults consequently also increased – as did the call for market reforms from the established traders (Michie 1999: 34). The situation was further complicated by *Barnard's Act*, a law prohibiting all forms of the so-called “time” bargains (Morgan/Thomas 1962: 62). On 3 March 1801, the reform efforts culminated in the creation of by-laws that limited the public's access to the market.

By contrast, in New York the growing competition through street trading and exchanges in Boston and Philadelphia motivated the professional traders to establish the New York Stock Exchange Board (Schwartz 1988: 127). As Sobel (1965: 30) has noted, complaints about deception and manipulations in unregulated street trading also played a role. The traders of the “*Buttonwood Agreement*” hoped to increase the attractiveness of their market by means of a stricter regulation and monitoring of trading activity. Membership was further attracted given that most forms of time bargains were unenforceable in the courts until 1858 (Banner 1999: 250).

Unlike the historical events that resulted in the establishment of exchanges in London and New York, the founding of an exchange in Paris was directly related to initiative of the French Crown. The undertaking in Paris, however, was also tied to hopes for a more stable market that would provide more favourable opportunities for selling government bonds (White 2003: 34). Despite the decisive influence of the state, the Paris exchange developed into an organized market with broad self-regulation powers in the areas of recruiting, disciplining and regulating (Davis/Neal 1998: 43; Neal/Davis 2005: 305; Vidal 1910: 25). However, these powers clearly differ from those possessed by the exchanges in London and New York in one area: disputes that could not be resolved by the authorities of the exchange were adjudicated by a federal commercial tribunal that sat in the exchange building.

5 The self-regulatory answer to the problem of cooperation

Even more than the reports of historians, individual regulations from the by-laws make plain precisely those concerns that moved the market participants to establish exchanges. Aside from the individual differences, the act of founding an exchange centrally involved establishing a social mechanism for the selection of trustworthy individuals to form a reliable market. The aim of market stabilization was supposed to be achieved through a strict separation of appropriate and inappropriate persons. This was made possible by a formal membership that was tied to numerous preconditions. Alongside the selection of the trustworthy individuals from the ranks of the professional traders of the city, a selection mechanism was also devised whereby swindlers could be excluded from the market.

The mechanism of positive selection that was to ensure the admission of trustworthy individuals was based, first, on a checking the general socio-structural characteristics like class, nationality, religious affiliation and professional experience. In the final years of the *Ancien Régime*, for instance, applicants for a license on the Parisian exchange had to be at least 25 years old, of French nationality and catholic. Business relations with persons from a lower class were forbidden under the threat of imprisonment. From 1781, applicants also needed to show that they had at least five years professional experience at a bank, notary or trading house (White 2003: 45). Before 1871, a minimum age of 16 years was mandated for applicants to the London Stock Exchange. Applicants also had to have at least two years of professional experience as an employee with a trader and been born in Great Britain (Neal/Davis 2005: 300). Comparatively fewer formal demands were placed on future members of the “*New York Stock & Exchange Board*”: the by-laws of 1817 simply mandated that an applicant be able to demonstrate at least one year of professional experience as a broker or an apprentice (Banner 1999: 254).

In addition to the general socio-structural characteristics, the applicant's personal reputation was also scrutinized. The review was based on the traders' first-hand knowledge, but also on any circulating rumours. Since many members (at least in New York and London) also pursued businesses outside of the exchange, the traders could draw upon an extensive network of business related and private relations that included both the “*coulisse*” (or the “*curb market*”) and the banks and long-distance trad-

ing circles. In order to check on a person's business reputation, information was used from the network, where the names of applicants were published early, the exchange members could vote on admittance and what mattered was the number of votes to reject of a candidate. An example of this can be found in the by-laws of the NYSE of 1817: The acceptance of an applicant was voted by secret ballot. Three dissenting votes were enough to turn down a candidate (Banner 1999). The selection process of the LSE was even stricter. Here, members had to be readmitted every year to the exchange by the steering committee. The committee was selected by the vote of members from the preceding period. The names of the applicants were visibly posted in the exchange eight days before the ballot for admittance in order to give participants ample opportunity to submit written objections prior to the vote (Neal/Davis 2005: 299 – 300). In Paris, the names of traders who defaulted on their payments had already been regularly publicized on a board since 1724 (Preda 2005: 71).

There was a further hurdle in that a candidate required the active advocacy and sponsorship of a member for a successful application. On the NYSE, according to the rules of 1817, an endorsement by one member was sufficient, whereas on the LSE an applicant for a seat needed to be recommended by at least two members (Banner 1999: 254). In response to the increasing number of default payments, every sponsor for a candidate since 1812 also had to put up a sum of £250 as collateral against future losses by the applicant.

Neal and Davis provide a detailed description of the finely graduated review process on the NYSE:

“By 1900 a prospective member, having insured himself that he could meet the requirements of the Committee of Admissions, and having provided himself with two sponsors, entered into negotiations with the secretary of the Exchange for the purchase of a seat. Once having completed those negotiations and paid the \$2000 initiation fee, he and his sponsors presented themselves before the Committee of Admissions. ‘This committee first calls his proposer and his seconder, and they are subjected to a careful inquiry as to how long they have known the candidate, and whether in a business or social way; his qualifications for membership, his health, his character and reputation, and his previous business experiences are all subjected to a microscopic scrutiny. His sponsors are asked if in the ordinary course of business they would accept a check for \$20 000. If the answers to these questions prove satisfactory, the candidate himself is summoned and put through a similar

examination.’ He was then, of course, still subject to election by the membership.” (Neal/Davis 2005: 303)

The social mechanism of positive selection did not mean that the exchange members no longer took excessive risks and were always in a position to meet their payment obligations. To limit this risk, exchanges developed extensive regulatory capacities and subtly graded disciplinary records. The members empowered the exchange committees to issue reprimands, impose fines, seize capital and, in extreme cases, even to suspend or completely cancel memberships. Thus, in addition to the mechanism of negative selection, exchanges obtained wide-ranging instruments for monitoring, controlling and disciplining members. Early examples of this development may be found, for instance, in the amended version of the NYSE by-laws from 1820: members that did not honour their contracts or became insolvent could be barred from trading on the stock exchange for as long as they had failed to meet their outstanding obligations toward other exchange members (Mulherin/Netter/Overdahl 1991: 596-597). The exchange charter from 1865 further provided that traders could be indefinitely barred from the exchange if they were accused of violating the rules, the accusations were confirmed after being examined by the steering committee and two-thirds of the members agreed with the decision (Hamon 1970: 16). After 1868, the amount of money that an applicant had to pay for a seat on the NYSE was utilized as both a deposit and as a penalty in the case of unmet debts (Mulherin/Netter/Overdahl 1991: 598). At the Parisian exchange, traders also had to pay a considerable deposit of FF 250 000 as a security against default payments (Weber 1894: 41; Vidal 1910: 16).

These procedures laid the foundation for the development of exchanges into powerful “self-regulating” organizations equipped with federal powers for monitoring and regulating the market, as was the case in London and New York (Coleman 1994; Lütz 2002). The NYSE – for instance – established a highly specialized internal system of justice where the procedures required for forming committees, writing reports, convening hearings and imposing punishments quickly became routine just within a few years after its foundation (Banner 1999: 272).

6 Organizational membership and hierarchy as market stabilizing mechanisms

The key mechanism for stabilizing behaviour in the early securities markets was the organizational mechanism of membership, a widely discussed topic in organizational sociology. After all, what was true for other organizations was also true of exchanges: "Membership is bound more or less stringently, but at the very least 'formally' to the requirement to follow the rules. Only those who recognize the rules of the organization may join in the first place. Those who no longer wish to follow these rules must leave." (Luhmann 2005: 50, our translation) However, the membership rules of exchanges exhibited also a deviation from the organizational norm. The traders on exchanges in London or New York certainly were subjected to the disciplinary hierarchy of the exchange's internal judicial system. Still, this system could only exercise its authority when there was a violation of market regulations, and not arbitrarily through members' activities within a "zone of indifference" as is typical of most organizations (Barnard 1968: 167).

Certainly, the actual intentions of an applicant or member could not be discovered by means of strictly controlling the formal criteria for membership. Nonetheless, relying on the experiences of traders and the verification of various formal preconditions proved to be useful information at least for keeping out fraudsters, conmen and compulsive gamblers. Through membership a pool of individuals was selected that the traders could consult during the daily course of business so that they did not have to inspect the credit worthiness of their counterparts in every given instance. This was an essential precondition that enabled the market to realize its full potential. Spontaneous deals conducted in quick succession with a variety of business partners – the characteristics of an ideal marketplace – were first made practical by the combination of hierarchy and formal membership.

7 Conclusions

The regulations stemming from the by-laws of early exchanges indicate the uncertainties that business partners on the early securities markets had to face. As Beckert notes, "Market relations are risky when one exchange partner makes an advance payment without being sure whether the other party will actually fulfil the contractual obligations, or when contracts are incomplete" (Beckert 2009: 259). In our view, the cooperation problem that

"arises from the social risks that market actors incur because of their incomplete knowledge of the intentions of their exchange partners" (Beckert 2009: 259) was the main driving force behind the founding of stock exchanges. When viewed from the perspective of Williamson's new institutional economics, this particular connection is ignored. The presupposition of a contract law that fulfils its purpose masks the institutional prerequisites of emerging markets. By contrast, from the more comprehensive market-sociological perspective, one can see that the self-regulations in the case of the New York and London Exchanges served as a functional equivalent to contract law. Through the organizational hierarchy, an internal judicial system was established using the formal membership rule to punish undesirable behaviour. In view of a lack of alternative powers to punish fraud effectively, at least compared to the encompassing ability of the state, the ultimate threat to withdraw access to the market was used as a substitute for contract law.

To be sure, the establishment of exchanges was not exclusively attributable to the designated cooperation problem. It is indeed possible to detect other motivations with regard to different charter regulations, such as the desire to minimize competition through cartel like structures, customer non-solicitation agreements and permanent commissions. Moreover, it is not possible to show with available historical material that the similarity in the regulations can be ascribed to identical functional requirements and not, for instance, to processes of institutional isomorphism (Meyer/Rowan 1977; Powell/DiMaggio 1983). Nonetheless, in our view the formulations provide clear indications of the aims that the period's contemporaries pursued with the regulatory frameworks they installed.

With regard to the current debate that has unfolded since the financial crisis of 2008 on the need, scope and direction of new market regulation, the following observations are interesting to note: in devising regulations, the practitioners on the early modern financial markets did not rely on the "invisible hand" as the free play of market forces between supply and demand, but rather preferred to take on the problem themselves by establishing an exclusive, institutionally confined and bureaucratically controlled marketplace. The very actors who produced and reproduced the market through their everyday interactions did not, at the time, trust in the currently much-lauded capacity of markets to self-regulate. On the contrary, they expected that comprehensive regulatory measures would be necessary to ensure the reliable functioning of the market.

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Endnotes

1A third alternative includes the view that exchanges are simply “broker-dealers” or financial intermediaries.

2Organization and hierarchy are used synonymously here, even though organizations consist of more than just hierarchies (see for instance, Ahrne/ Brunsson 2011).

3What’s more, they drew upon an extensive bureaucratic organization; the New York Stock Exchange in 1978, for instance, had approximate 1000 permanent staff according to an estimate from Coleman (1994: 255).

4Along with the concept of “parametric” uncertainty, Williamson also discusses “behavioral uncertainty” as the motivation behind diverse forms of contract (Williamson 1985: 56f.). The potential of this concept, however, is not fully exhausted, as the analysis of this form of uncertainty remains limited to its interaction with the “parametric” form. In Williamson, opportunism proves to be an auxiliary hypothesis that is not investigated with regard to its impact on market behavior, but is used to merely substantiate why “parametric” uncertainty can be a driving problem behind transaction costs in long term contracts with high transaction-specific investments.

5Williamson explicitly adopts this point of view, when he states that: “In the beginning there were markets” (Williamson 1975: 20).

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