

# **Manipulation, monopoly, and the Chicago Board of Trade's transition from self-regulation to government regulation**

**by Slavi Tr. Slavov**

**18 October 2001**

## **1. Introduction**

The Chicago Board of Trade (CBT) is the world's largest market for futures contracts. A quick and rough sketch of its history would reveal a trajectory of institutional change quite common to most financial markets. The CBT emerged spontaneously as a voluntary association around 1848. It was formally incorporated by the Illinois state legislature in 1859. Essentially, the CBT provided transaction services for a fee. In doing so, it resolved an economic problem: the high transaction costs of handling grain on its long trip from producers to consumers. The CBT reduced transaction costs by providing a place and a set of rules; by standardizing contract terms and trading practices; by helping with costly state verification in weighing, inspection, and grading; by motivating members to cooperate in acquiring and releasing information and in settling disputes; and by guaranteeing contractual integrity and market liquidity. The CBT was the transaction cost-minimizing response to environmental conditions – the turbulence and complexity of competitive markets.

For the first fifty years or so of its existence, the Chicago Board of Trade was a self-regulating institution. Over time, however, the self-regulating CBT turned out not to be self-reinforcing. Its membership grew fast; exchange members accumulated substantial wealth; the CBT acquired an ever more important role in the US economy. These gradual changes in quasiparameters eroded the self-regulating exchange as an integrated self-enforcing system. In the twentieth century, it was gradually replaced

with a mixed system under which both the exchange and the federal government shared regulatory powers and responsibilities over futures markets.

The rest of this paper explores the importance of past institutions in determining the *direction* of institutional change in the context of CBT's transition from self-regulation to a mixed regulatory system. The paper singles out and explores in finer detail three factors that influenced CBT's institutional evolution. All three are focused on the issues of market monopoly and manipulation. First, the self-regulating CBT was unable to resolve efficiently the conflict between two of its basic functions: enforcing contracts and deterring manipulation. Second, the self-regulating CBT was unable to resolve a collective action problem which tended to exacerbate over time as quasiparameters (membership and members' wealth) evolved. Third, the self-regulating CBT lacked the economic incentives to internalize the costs and benefits of the externalities it "spewed out" at the larger economy. As the CBT's importance for the US economy increased, the problem grew more serious. Sections 2 through 4 below explore each of these points in further detail. Section 5 concludes.

## **2. Enforcing contracts and fighting manipulation**

In the early years of the Chicago Board of Trade, attempts to pass and enforce rules against market manipulation were continuously thwarted by their conflict with contract enforcement. The "sanctity of contracts" was the dominant cultural norm shared by market participants. In fact, the unconditional enforcement of contracts was perhaps the prime function for the establishment of the CBT in the mid-nineteenth century.<sup>1</sup> A CBT historian describes the prevailing commercial code of honor at the time in the following words: "it was honorable to manipulate the market against your

---

<sup>1</sup> As Abolafia (1985) points out (p. 316), the Chicago Board of Trade is based on the institutional heritage of the trade rules of medieval fair merchants since the eleventh century. It serves a function analogous to *lex mercatoria*, the medieval merchant law.

fellow member, but [ . . . ] it was dishonorable in him to refuse to settle at the fictitious price.”<sup>2</sup> This quite bluntly states that unconditional contract enforcement overrode any concerns about manipulated prices and their consequences.<sup>3</sup>

Because of the clash with contractual integrity, rules against manipulation were hard to pass on the Chicago Board of Trade. When such rules were passed, they were usually quickly repealed. Those rules that stayed on the books were not enforced consistently, to put it mildly. In October 1868, a year of many corner attempts,<sup>4</sup> the Board passed Rule 13 which provided for contract settlement at a price based on actual value, if a committee of three disinterested members determined that a corner existed. The rule, in other words, provided for conditional contract enforcement. It gave the CBT the right to unilaterally alter the terms of contracts negotiated by free and rational individuals. The rule was seldom enforced and was repealed nearly unanimously only one year later. Several attempts to re-introduce the rule failed in the next two years. A new rule, Rule 8 on the settlement of defaults, passed in 1873. It once again allowed for the conditional enforcement of contracts by making it possible for shorts caught in a squeeze to default and pay a price close to the competitive prices prevailing in other markets. In 1879, Rule 26 (on contract defaults) was amended to allow an arbitration committee to impose a settlement price which could differ from a fictitious (manipulated) one. This new rule was repealed only three years later in 1882, during a year of colossal politicking by exchange members. The amended rule on defaults made contracts unconditional again. Every single attempt to pass any anti-corner rules in the

---

<sup>2</sup> Boyle (1920), p. 57.

<sup>3</sup> In fact, there was no clear consensus that there was anything wrong at all with speculation and manipulation, even in the extreme. Many believed that these were necessary parts of the institutional framework for minimizing the transaction costs of handling grain.

<sup>4</sup> Even though there are “short corners” as well, this paper will focus on “long corners” as the prevalent form of market manipulation. In a “long corner” or a “long squeeze” a member establishes a dominant long position in futures contracts, and perhaps also in the commodity underlying the futures contract. When the expiration date comes near, the large long attempts to use his dominant position to extract profits by standing for delivery, or by quoting a non-competitive price for cash settlement. As a result, there is increased volatility in market prices right before and right after the expiration of the “cornered” contract.

next 29 years was voted down. Thus, in the 43 years between 1868 and 1911, there were only 11 years with anti-manipulation rules on the books of the CBT.<sup>5</sup>

Manipulation at the CBT was rampant during that period: 117 corner attempts have been counted during the period 1868-1911.<sup>6</sup>

Enforcement of the rules against market manipulation during those 11 years can be described as sketchy, at best. When arbitration committees had to determine a settlement price for cornered contracts, they usually enforced the manipulated price, or another one well above the competitive price likely to prevail in an unmanipulated market. The CBT repeatedly revealed a heavy preference for the unconditional enforcement of contracts, even when that meant endorsing corners and squeezes. Maintaining market integrity was a higher priority than deterring manipulation and monopoly. In many occasions, exchange officials were in fact elected by the membership if they committed not to enforce anti-manipulation rules too aggressively.<sup>7</sup> The enforcement of these rules was obviously endogenous to the system of rules, beliefs and norms around the Chicago Board of Trade.

In the few cases in which cornerers and manipulators were punished with suspension or expulsion from the CBT, it happened because their corner attempt failed and they were unable to settle their contracts in full. Manipulation was punished *only* when it threatened contractual integrity. To list a few examples, in 1872 there was an attempted corner in oats but the firm running it went bankrupt and was suspended, as a result.<sup>8</sup> When, in 1883, the CBT introduced more stringent margin rules, its directors praised the change because it would discourage default, *not* because it would make manipulation harder. As a consequence of the unsuccessful Leiter wheat corner of

---

<sup>5</sup> Many such rules were indeed passed after 1911 but that was under the intense public and political pressure that ultimately led to the Grain Futures Act of 1922. The GFA ended the self-regulatory stage of CBT's history.

<sup>6</sup> Pirrong (1995), Appendix B. Most of this paragraph is also based on Pirrong (1995), pp. 169-174.

<sup>7</sup> *Ibid.*, p. 176.

<sup>8</sup> Boyle (1920), p. 63.

1898, he was estimated to have lost between two and three million dollars. He failed to settle in full and was suspended from the Board indefinitely.<sup>9</sup> The Board's primary concern in case after case was guarding the "sanctity of contracts," not deterring corners.

Whenever there was a conflict between the two, maintaining contractual integrity always prevailed over fighting manipulation. In 1874, the Board even considered passing a resolution stating that "the Board should adopt no rule which countenanced or encouraged the non-fulfillment of contracts under any circumstances."<sup>10</sup> Thus, the directors' concern was obviously not with stopping corners but with making sure that exchange members indeed suffered their full consequences.

The historical narrative above shows that there was a conflict between the norm of market integrity and that of maintaining a market free from manipulation and monopoly. The early rules of the exchange emerged largely as a way to coordinate members' beliefs about the sanctity of contracts. The exchange came about largely as a commitment mechanism for its members to take actions – fulfill their end of the contract – which *ex post* might not be in their best interest. Various anti-manipulation rules added later on conflicted with the function of contracts as commitment devices.

It should be clear that the cluster of rules, norms, and behavioral cultural beliefs around the self-regulating CBT was not truly a coherent self-enforcing system. Its rules generated behavior that undermined members' beliefs and norms. Enforcement of rules was endogenous and a part of the behavior that undermined the underlying beliefs and norms. Self-regulation augmented with government supervision under the

---

<sup>9</sup> *Ibid.*, p. 70.

<sup>10</sup> Pirrong (1995), p. 176.

Grain Futures Act of 1922 and subsequent legislation provided the lacking commitment mechanism for exchanges to enforce contracts conditionally.

We know from transaction costs theory that selective intervention is generally inefficient.<sup>11</sup> Affected parties will opportunistically attempt to influence decision makers who, in turn, face a commitment problem: they cannot commit credibly to intervene only when it would be appropriate and efficient. The exchange's ability to alter and overturn contract terms *ex post* invites abuse and opportunism. This makes conditional enforcement very costly to the exchange and its members. As a result, in equilibrium there is less enforcement and manipulations occur more frequently.

Indeed, opportunism by self-proclaimed "cornered shorts" was widespread during the second half of the nineteenth century. Attempts to resort to anti-corner rules to change contract terms *ex post* were extensive. Both opportunists and bona fide victims of manipulation were branded by other exchange members as "contract repudiators." A typical article in the Chicago Tribune during the notorious 1882 criticized the anti-manipulation rule on the books of the exchange in the following words: "Rule 26 [. . .] virtually invites repudiation."<sup>12</sup>

Given the CBT's inability, another institutional arrangement was needed to administer conditional contractual performance at a lower cost, and enable exchanges to commit to intervene selectively only when intervention was necessary and efficient. Federal regulation and supervision of the CBT turned out to be the institutional solution. It lowered the costs of conditional enforcement and enabled the CBT to commit to enforce contracts selectively.

Thus, one misses the point somewhat in claiming that the CBT's more aggressive adoption and enforcement of anti-corner rules after 1911 was *caused* by the

---

<sup>11</sup> See Williamson (1985).

<sup>12</sup> Pirrong (1995), p. 178.

threat of further government intervention and that exchanges became “enforcement agencies of the federal government”<sup>13</sup> rather than “self-regulating principals.”<sup>14</sup> If we put the horse back before the cart, government supervision and regulation of futures exchanges was rather a new institutional element which was necessary to make the system of norms, beliefs, and rules self-enforcing and coherent. It was a mechanism which enabled the CBT to commit to enforce contracts selectively and to fight manipulation effectively at the same time.

### **3. Collective action problems in self-regulating exchanges**

Fischel and Grossman (1984) begin their discussion of conflicts of interest issues in exchanges with the overly optimistic assumption that “the collective action problem in an exchange is resolved by the members bargaining among themselves until a strategy which maximizes the sum of their wealth is achieved.”<sup>15</sup> In other words, bargaining is costless. Earlier, they decide to ignore “for the moment” “any conflicts which may exist [ . . . ] between different members of the exchange.”<sup>16</sup> Contrary to what these authors assume so easily, negotiation costs are not zero and exchanges are not unitary decision making bodies. In fact, exchanges are conspicuously political organizations; they are coalitions of individual agents with diverse interests. Because negotiation and transaction costs are positive, it is by no means guaranteed that agents will bargain for a Pareto optimal solution that maximizes the sum of their wealth. Collective action problems are fundamental in trying to understand both the initial emergence of the self-regulating Chicago Board of Trade, and the subsequent transition to a mixed system of a self-regulating exchange

---

<sup>13</sup> *Ibid.*, p. 143.

<sup>14</sup> *Ibid.*, p. 195.

<sup>15</sup> p. 293.

<sup>16</sup> p. 291.

supervised by the federal government. Each institutional arrangement attempted to resolve a collective action problem. Thus, analyzing collective action issues helps to understand the CBT's direction of institutional change from pure self-regulation to a mixed system.

From its origins in the mid-nineteenth century, the Chicago Board of Trade has been described as a political organization. An early historian praised its democratic structure and procedures for holding referenda and for tabling various rules and resolutions.<sup>17</sup> The same historian hints at CBT's complicated politics in describing how in 1907, at a critical juncture in CBT's fight with terminal elevators, a "harmony candidate" was unanimously elected president.<sup>18</sup> The same author describes the early rules and regulations of the exchange as equilibrating the needs and demands of all immediately concerned parties: speculators and hedgers; cash grain, warehouse, and banking interests.<sup>19</sup> It is quite obvious, therefore, that the CBT was from its very beginning a political organization. Given positive (and probably substantial) negotiation costs, it is very unrealistic to reduce exchanges to unitary decision-making bodies.

The Chicago Board of Trade in the self-regulating stage of its institutional history emerged as a cluster of norms, beliefs, and rules aimed at resolving a collective action issue by lowering negotiation costs. The CBT was a form of voluntary mutually-beneficial coercion, a way for each member to commit to incur certain costs as long as everybody else agreed to incur these as well.<sup>20</sup> The CBT was an institutional device to resolve free-rider issues in the acquisition of public goods, and to prevent

---

<sup>17</sup> Boyle (1922), p. 18.

<sup>18</sup> *Ibid.*, p. 110.

<sup>19</sup> *Ibid.*, p. 58. Boyle's account of self-regulation is anticipating the Chicago school's economic theories of regulation, as laid out in Stigler (1971), Posner (1974), and Peltzman (1976). There, regulation does not attempt to maximize economic efficiency but is, rather, an equilibrium outcome driven by market forces (supply and demand for regulation).

<sup>20</sup> A situation not unlike the convention to drive on the right.

coalitions of players from defecting. Cooperation allowed exchange members to enjoy certain benefits: uniform terms of contracts, standard times and methods of trading, measures to guarantee contractual integrity (such as margin rules), and to guarantee market liquidity (such as position limits and circuit breakers).

However, the collective action problem at the CBT was not completely resolved and it tended to exacerbate over time. Rent-seeking and free-riding increasingly plagued the first fifty years of the CBT's history when it was a self-regulating institution, and systematically distorted its incentives to self-police. The early history of the exchange abounds in examples of the deadweight losses of economic resources spent on rent-seeking. For example, the process of electing board directors was very politicized – in the best tradition of vintage Chicago politics – and bore high economic costs. 1882 was remembered as the “committee year” because arbitration boards were called very often to discuss the numerous manipulation attempts.<sup>21</sup>

Enforcement of anti-manipulation rules was an area where collective action issues (free-riding, rent-seeking) were particularly acute. In general, enforcement is a costly public good. Exchange members differ in valuing it and their valuations are private information. Given all that, exchanges are likely to choose inefficiently low levels of enforcement in equilibrium.<sup>22</sup>

When successful, “long corners” (the most common manipulation practice at the CBT) transferred large amounts of resources from shorts to longs. Anti-manipulation rules aimed at preventing or reversing this wealth transfer. Thus, both the profits from manipulation and the efficiency gains from deterrence were distributed unevenly. Given the size of the economic rents at stake, it is no wonder that both

---

<sup>21</sup> Pirrong (1995), p. 171.

<sup>22</sup> The above is a detailed restatement of a well-known principle in public economics that the provision of a public good is inefficiently small when agents' valuations of the good are unobservable. See Mailath and Postlewaite (1990).

manipulators and their victims were willing to spend large amounts of resources on wasteful lobbying and rent-seeking.

There was a conspicuous asymmetry on the Chicago Board of Trade between longs and shorts. In general, the longs were larger, more concentrated and homogenous, and hence better organized. They faced lower costs of lobbying and rent-seeking, as well as higher stakes in the form of rents per capita. Shorts, on the other hand, tended to be more numerous, diffuse, and heterogeneous. They faced higher costs of organizing and lobbying, and also lower per capita rents at stake. That asymmetry biased the decision-making process at exchanges toward the longs and away from efficiency. It explains the CBT's poor record in passing and enforcing anti-manipulation rules, which have both efficiency and distributive effects.

There are other examples in the CBT's early history of how in a world with positive negotiation costs, collective action problems are not resolved efficiently. Boyle (1922) hints at those issues in documenting the "*continuous and sustained effort by the majority to compel a powerful minority*" to acquiesce to the adoption of efficient rules on the weighing, inspection, and grading of grain.<sup>23</sup>

A self-regulating exchange was capable of lowering transaction costs, resolving the collective action problem, and hence ensuring its own institutional survival for quite a while. However, ultimately it turned out not to be a self-reinforcing institutional system. As is common in institutional history, increases in population and prosperity undermined the institution.<sup>24</sup> The CBT's initial success in lowering transaction costs and in resolving the collective action problem led to growth in membership and in members' prosperity. The former made the collective action problem ever more severe, as coordination costs grew faster than membership. The

---

<sup>23</sup> p. 43.

<sup>24</sup> One could draw an analogy to the demise of the community responsibility system in the late medieval period, as described in Chapter 7 of Greif (2001).

latter raised the stakes in members' rent-seeking activities and hence the resources they were willing to expend on lobbying. The gradual changes in these two quasiparameters (membership and prosperity) led to the kind of behavior (lobbying, rent-seeking, free-riding) that undermined the effectiveness of a self-regulating exchange in resolving the collective action problem. The CBT became a self-destructing institution.

It is useful to mention the history of the London Metal Exchange in order to establish the importance of membership size in accounting for the success of self-regulating exchanges at resolving the collective action problem. The LME has a successful historical record of self-regulation. It has fought manipulation attempts aggressively and committedly.<sup>25</sup> It is fair to attribute this success to the LME's better record of resolving the collective action problem. The number of traders on the LME has stayed small through the years. Its membership has been concentrated and homogenous; both producers and consumers (short and long hedgers) of metal products were strongly represented on the exchange.

The self-regulating Chicago Board of Trade was gradually replaced or, rather, augmented by a mixed system of self-regulation under federal government supervision and control. The Grain Futures Act (GFA) of 1922, the Commodity Exchange Act (CEA) of 1936, and the Commodity Futures Trading Commission Act (CFTCA) of 1974 altered the rules of the game, altered the mapping from actions to payoffs, and introduced new players (e.g., the CFTC). The GFA imposed sanctions on exchanges if they failed to self-regulate effectively: sanctions included suspension or revocation of the exchange's designation as such.<sup>26</sup> The credible threat of government intervention

---

<sup>25</sup> In the past, the LME has broadened delivery specifications and locations, extended the delivery period, forced settlement at a competitive price. Many times, mere threats have sufficed to ensure an orderly market, which speaks volumes about their credibility (Pirrong (1995), p. 191).

<sup>26</sup> Pirrong (1995), p. 193.

created a powerful new incentive for exchanges to overcome the collective action problem, and to pass and enforce anti-manipulation rules much more aggressively. Government supervision and regulation of futures markets served as a commitment device for exchange members to cooperate. The federal government was relatively better at binding the behavior of the large longs, who stood to gain the most by defecting from CBT's system of voluntary mutual coercion.

The new framework was one of divided jurisdictions between self-regulation and government regulation, based on comparative advantage. The emerging new institutional arrangement still relied mostly on the CBT's self-interest. However, it was now augmented with government regulation which added a new player and changed the mapping from actions to payoffs.

#### **4. Externalities and self-regulating exchanges**

In deciding on the optimal level of manipulation deterrence, a self-regulating exchange would equate its private marginal benefit from regulation to its private marginal cost. It is a subject of intense debate in the literature whether the private optimum approximates well the social one which would equate the social costs and benefits of regulation. Alternatively, the subject of debate can be restated as: are there any substantial (positive or negative) externalities that a self-regulating exchange fails to internalize when deciding on the optimal amount of regulation? Or, if one thinks of regulation in the Chicago tradition, as the equilibrium outcome of supply and demand forces, the question reduces to: is there a significant difference between the forces that determine the equilibrium amount of regulation on a self-regulating exchange, and the forces on the society-wide "market" for regulation? The answer to this question, in its various restatements, matters for our attempt to explain the direction of CBT's institutional change: from a self-regulating system to a mixed one in which the CBT

and the federal government have divided jurisdictions over various aspects of regulation.

One conspicuous example of a positive non-pecuniary externality produced by futures markets is the vector of prices of various contracts (in wheat, for example), which is publicly knowledge and is widely used by non-members (e.g., farmers) to make economic decisions.<sup>27</sup> During manipulation attempts, such as “long corners,” futures prices get heavily distorted. Distortions are both intertemporal and spatial. They affect the relative prices between the futures market and the spot market, between contracts of various expirations dates, as well as between prices of similar contracts in various locations. Because of the reduced informativeness of prices, there will be deadweight losses due to distorted production, consumption, transportation, and storage decisions by people outside the futures markets.<sup>28</sup> Of course, outsiders with rational expectations will recognize the positive probability that the observed price is a manipulated one, and they will incorporate this extra piece of uncertainty in their decision-making. Nevertheless, as a result, the signal transmitted by market prices will contain more noise and less information to economic agents.

There is a heated debate in the literature about how economically significant the price distortion really is. Some authors have pointed out that manipulation attempts are very risky endeavors and they rarely succeed.<sup>29</sup> Therefore, distortions in prices are likely to be quite small. Furthermore, their argument goes, most prices get distorted only for a few days or even hours right before contract expiration, and are unlikely to

---

<sup>27</sup> There is an obvious analogy here to bond markets whose prices (or interest rates) are public information and are used by virtually everybody to make economic decisions.

<sup>28</sup> The list of economic dislocations compiled by Pirrong (1995) includes (see p. 168): unnaturally large flows of grain into Chicago (sometimes from locations that Chicago typically shipped to), artificial shortages of rail cars and congestion in freight yards, temporary idling of grain-carrying vessels and of processing facilities.

<sup>29</sup> The Hunt family allegedly lost more than a billion dollars in their failed silver corner in 1980 (Easterbrook (1986), p. S110).

affect any outsiders' economic decisions.<sup>30</sup> Other authors have countered that even though most manipulation attempts play out in very short periods of time, the price of a futures contract incorporates the non-trivial probability that it may be cornered way *before* the actual manipulation attempt occurs. Therefore, prices will be distorted for more than just a few hours or days, and their reduced informativeness will affect outsiders' decisions.<sup>31</sup>

Agents outside futures markets who have a stake in efficient and informative prices face a severe collective action problem, due to their sheer numbers, in trying to bargain with the exchange for effective deterrence. But then it is questionable whether the self-regulating CBT has the proper incentives to internalize the costs corners and squeezes create for outsiders. In the early twentieth century, there was widespread public furor over the real-economy repercussions of manipulated futures markets. This indicates that the socially optimal amount of deterrence diverged substantially from the level exchanges chose to implement. Public indignation was expressed via numerous lawsuits, via scores of anti-futures bills in Congress which basically tried to tax futures out of existence, and via numerous undercover investigations of the markets by the executive branch.<sup>32</sup> The inability of self-regulating exchanges to internalize the costs and benefits they inflicted upon outsiders explains the institutional evolution from self-regulation to a mixed system. The self-regulating CBT was not a self-reinforcing institution. In a way, it "fell a victim" to its own success. Its increasing economic significance (a quasiparameter of sorts) undermined its self-regulatory foundations. The CBT simply became too big and important to be left alone to self-regulate.

---

<sup>30</sup> Boyle (1922), p. 73; Edwards and Edwards (1984), p. 343 and p. 346; Fischel (1986), p. S94; Easterbrook (1986), p. S108.

<sup>31</sup> Pirrong (1995), p. 145 and p. 156.

<sup>32</sup> *Ibid.*, p. 173.

Many authors have described trading volume as the correcting mechanism that will force exchanges to implement some level of manipulation deterrence, which won't be too far away from the social optimum. Exchange members earn revenues which are an increasing function of trading volume. If exchanges do not produce the "right" amount of protection from manipulation, trading volume will fall, and so will exchange members' wealth. Therefore, maximizing trading volume aligns the incentives of members with those of outside users of the market, and the level of regulation provided by a self-regulating exchange will be close to the optimum.

However, the role of trading volume as the correcting mechanism is by no means clear and obvious, even in theory. In a manipulated market with increased price volatility, there will be fewer trades by highly risk-averse hedgers and more trades by less risk-averse speculators. Exchanges would trade off these two forces against each other, and might very well be better off with corners. They might lack the proper incentives to internalize the costs of less informative prices to outsiders.

In practice, there is substantial evidence that trading volume *increases* dramatically during manipulation episodes. Historical sources tell stories of enormous speculative trading during corners and squeezes, of abundantly provided telegraph lines being swarmed with orders during those periods, of occasional strikes for higher wages by commission firm clerks exactly during manipulation episodes when their services were most needed in the hectic trading.<sup>33</sup> It appears that members in fact profited the most, at least in the short run, during corner episodes, when prices are most volatile and most heavily distorted. This finding hardly lends any credibility to the claim that falling trading volume during squeezes will motivate exchanges to deter manipulation effectively.

---

<sup>33</sup> Summarized in Pirrong (1995), p. 173-4.

If there is a positive relationship between manipulation deterrence and trading volume, it is more likely to be a long-run one. Exchanges might very well face a choice between the short-term gains from a systematically manipulated contract and the long-term gains from a contract free of manipulation. It is straight-forward to map this choice into a simple infinitely-repeated game and claim that exchanges will deter manipulation if  $\frac{w}{1-\beta} > \alpha$ , where  $w$  is the net gain from “cooperating” (detering manipulation),  $\alpha$  is the net gain from “cheating” (tolerating a manipulated contract), and  $\beta$  is the relevant discount factor. Obviously, the exchange’s decision will depend on parameter values: the size of  $\beta$  and of  $w$  relative to  $\alpha$ . If  $\beta$  is large or  $w$  is large relative to  $\alpha$ , the exchange will choose deterrence over doing nothing: building a public reputation for “fairness” might increase the exchange’s profits in the long run.<sup>34</sup>

The connection between manipulation deterrence, on the one hand, and trading volume, on the other, has been shown to be very tenuous. The lack of clear incentives for exchanges to internalize the costs of the externalities they emitted necessitated the transition to a mixed system of regulation and supervision of futures markets.

Various authors have claimed that, in addition to trading volume, another device to align the exchange’s incentives with those of the public is competition among the exchanges. According to this argument, if exchanges do not adopt effective rules against manipulation, they will lose market share. Two shortcomings of this argument must be pointed out. First, particular contracts are natural monopolies. One could argue that the outcome might nevertheless be efficient, as long as the market for any contract is contestable.<sup>35</sup> However, the first-mover advantage – due to fixed costs and barriers to entry – in any particular futures contract is very substantial. Second,

---

<sup>34</sup> There is an analogy here between the exchange’s choice of an optimal level of regulation, and the choice by manufacturers of a quality level for their product (a car, a PC, a VCR). Manufacturers face a trade-off between the short-run profits and the long-run reputational losses from selling a shoddy product.

<sup>35</sup> See Baumol, Panzar, and Willig (1982).

hoping for competition between exchanges to reduce manipulation (a negative externality) is not unlike hoping for competition between steel plants to reduce pollution.<sup>36</sup> Competing exchanges will face the same incentive problem – no clear connection between price informativeness and trading volume – and will be unable to internalize the social costs of manipulation, as a result.

## **5. Summary and conclusions**

The institutional evolution of futures markets has started from self-regulation and has evolved and stabilized around a mixed system in which the federal government and exchanges have divided regulatory jurisdictions. Exchanges have better information, a deeper understanding of how the market works, clearer incentives in the form of crisp business trade-offs. However, they are likely to be self-serving and inattentive to the externalities they produce. The government has inferior information and understanding of the markets, murky incentives, but is more likely to consider the social costs and benefits of futures markets.

One should be somewhat cautious in extolling the virtues of government regulation. Many of the shortcomings of self-regulation apply to government regulation as well. In particular, one very much hesitates to claim that the institutional transition has reduced the amount of lobbying and rent-seeking by financial markets participants. Furthermore, because government regulators are not disciplined by the market to invest *but not overinvest* in deterrence, they will tend to over-react and err on the side of setting regulatory standards too high. This is reinforced by the fact that government bureaucrats suffer disproportionately large penalties for regulatory failures. Finally, government regulation can distort asset prices in ways self-regulation can never achieve: by introducing costly rules and by restricting entry.

---

<sup>36</sup> The analogy is due to Pirrong (1995), p. 155.

Three explanations have been offered above to account for the gradual drift from self-regulation to a mixed institutional arrangement. These are not the only explanations. They tend to be the relatively more benign ones and they focus on the role of institutions in minimizing transaction costs and in minimizing uncertainty.

Yet another explanation of the observed institutional transition might be offered. Perhaps the numerous futures markets in the US wanted to negotiate a cartel among themselves but had a collective action problem. “Voluntary submission” to government regulation could have been a way to solve this problem. From this viewpoint, government regulation is the brainchild of the futures exchanges themselves.<sup>37</sup> Because of their monopoly on the legitimate use of coercion, governments might very well have a comparative edge in propping up cartels, in restricting entry and competition, and in stifling innovation in financial markets. In addition, there is the added benefit of hidden government subsidies to the futures industry. This explanation of the transition from self-regulation to a mixed regulatory system is related to the more general view that institutions are all about redistribution and the relative power of one group vis-à-vis another.

---

<sup>37</sup> This is obviously along the lines of Stiglitz’s “capture theory of regulation” under which companies install regulators and “delegate” to them the job of forestalling competition.

## REFERENCES

- Abolafia, Mitchel Y. 1985. "Self-Regulation as Market Maintenance: An Organization Perspective." In Regulatory Policy and the Social Sciences. Roger G. Noll, ed. Los Angeles: U of California Press, pp. 312-43.
- Baumol, William J., John C. Panzar, and Robert D. Willig. Contestable Markets and the Theory of Industry Structure. New York: Harcourt Brace Jovanovich, 1982.
- Boyle, James E. Speculation and the Chicago Board of Trade. New York: Macmillan, 1920.
- Easterbrook, Frank H. "Monopoly, Manipulation, and the Regulation of Futures Markets." Journal of Business 59 (1986): S103-S127.
- Edwards, Linda N., and Franklin R. Edwards. "A Legal and Economic Analysis of Manipulation in Futures Markets." Journal of Futures Markets 4 (1984): 333-66.
- Fischel, Daniel R. "Regulatory Conflict and Entry Regulation of New Futures Contracts." Journal of Business 59 (1986): S85-S102.
- Fischel, Daniel R., and Sanford J. Grossman. "Customer Protection in Futures and Securities Markets." Journal of Futures Markets 4 (1984): 273-95.
- Greif, Avner. Historical Institutional Analysis. Manuscript, Stanford University, 2001.
- Mailath, George J., and Andrew Postlewaite. "Asymmetric Information Bargaining Problems with Many Agents." Review of Economic Studies 57 (1990): 351-67.
- Peltzman, Sam. "Toward a More General Theory of Regulation." Journal of Law and Economics 19 (1976): 211-40.
- Pirrong, Stephen Craig. "The Self-Regulation of Commodity Exchanges: The Case of Market Manipulation." Journal of Law and Economics 38 (1995): 141-206.

Posner, Richard A. "Theories of Economic Regulation." Bell Journal of Economics and Management Science 5 (1974): 335-58.

Stigler, George J. "The Theory of Economic Regulation." Bell Journal of Economics and Management Science 2 (1971): 3-21.

Williamson, Oliver E. The Economic Institutions of Capitalism. New York: Free Press, 1985.