

# Futures market regulation

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The rapid pace of futures and options trading on exchange floors created by hundreds of traders actively participating in the determination of prices is perhaps the activity closest to classical perfect competition that can be observed in our economy. A reality often lost on the public, however, is that this trading is not based on a pure *laissez-faire* doctrine; futures markets have always been and will continue to be subject to substantial regulation. This article addresses some of the key institutional elements and current regulatory concerns of the futures and options (derivative instruments) markets.

The justification for futures regulation is fourfold. First, the reputation of an exchange and the financial strength of its members are central to its success and survival, and hence to the benefits these markets bring to the economy. Second, the burden of closely and continuously monitoring market developments, as well as the condition of brokerage agents, is beyond the capacity of most non-professional traders, creating opportunities for customer loss through insolvency and illicit funds conversion. Third, monopolization by individuals or groups of traders can adversely affect the efficiency with which derivative markets provide economic benefits. Last, the inclination towards natural monopoly in individual contract trading concentrates economic control with exchanges and clearing corporations and makes the public vulnerable to abuse.<sup>1</sup>

## **Regulatory background**

A unique feature of the futures market regulatory structure is that individual exchanges have always acted and continue to act as their own regulator. Since the chartering of the Chicago Board of Trade in 1848, U.S. futures exchanges have established rules for the management of exchange business, including prescriptive and proscriptive trading rules, modes of transacting, and the arbitration of disputes.<sup>2</sup> Comprehensive federal regulation of futures markets did not exist until the passage of the Grain Futures Act of 1922. This act required the public dissemination of futures

market information, restricted certain practices through exchange self-regulation, and limited trading to those markets designated by the Secretary of Agriculture. It was later amended by the Commodity Exchange Act (CEA) of 1936 which increased the number of designated contracts, established mechanisms to protect traders from fraud, and extended the form and type of penal sanctions that could be imposed against violators.

The development of futures trading in nontraditional commodities, such as financial instruments, not covered by the CEA together with increased volatility of futures prices brought on by major shifts in demand and supply conditions in agricultural markets prompted the passage of the Commodity Futures Trading Commission (CFTC) Act of 1974. The act gave the CFTC exclusive jurisdiction over all forms of futures and commodity options trading. It was given the power to approve, disapprove, or amend all exchange regulations and rulings, except the level of margin requirements. Emergency powers were also granted to the CFTC, along with the ability to seek injunctive relief, impose cease and desist orders, and assess civil monetary penalties up to \$500,000 for each violation of CEA and CFTC regulations. Under the four-year sunset provisions of the CFTC Act, the agency was reauthorized in 1978, 1982, and 1986.

The 1982 Act lifted the previously enacted ban on domestic agricultural options and futures options and codified an accord between the CFTC and the Securities Exchange Commission (SEC). The accord had been finalized earlier, in December 1981, clarifying the jurisdictional responsibilities of the two regulators, which had been in dispute since the 1975 introduction of the Government National Mortgage Association futures contract.

As a result of the accord, the SEC regulates all options on securities, stock indexes, certificates of deposit, and foreign exchange traded on national securities exchanges. The

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CFTC regulates all futures and futures options on securities, broadly based indexes, certificates of deposit, foreign exchange, and agricultural commodities traded on futures exchanges.

The 1982 Act also authorized the CFTC to create a quasi-public regulatory organization independent of the exchanges but operated by market participants. The National Futures Association (NFA) was created and charged with regulating sales practices, member financial status, trader registration, and the arbitration of disputes. It is funded mainly through assessment fees on transactions in the markets. The NFA can serve cease and desist orders and expel a member, preventing access to the markets. It cannot take any criminal actions without involvement of the CFTC or some other government agency. The NFA manages regulatory activities that the CFTC would otherwise have to perform, freeing the CFTC to concentrate on oversight activities.

Self-regulatory actions available to the individual exchanges include the determination of margin requirements, the imposition of temporary emergency rules, and the designation and implementation of permanent rules, subject to approval by the CFTC. Temporary emergency rules are immediately effective and need not be approved by the CFTC if they are in effect for less than 30 days.<sup>3</sup> Exchange actions that can be undertaken under temporary emergency powers include: permitting trading only for the liquidation of positions, establishing position size limits, specifying substitute deliverable instruments, and providing for the cash settlement of contracts at delivery.

### **Proscribed trading practices**

Certain trading practices are proscribed by federal commodities law and exchange rules because they pose a threat to market participants and the integrity of the markets. These practices include market price manipulation, the misuse of market information, and broker trading for their own account before their customers', among others.

**Price manipulation.** It is a felony for a person to manipulate or attempt to manipulate the price of any commodity in commerce or for future delivery. Manipulation is taken to mean the creation of an artificial price or distortion by planned action, whether by a

single individual or a group of individuals. One type of price manipulation takes the form of a corner or a squeeze. A corner is the control or domination of the available supply of the underlying commodity for the purpose of influencing cash or derivative market prices. The viability of a corner therefore depends on a relatively fixed supply of the underlying commodity. A squeeze differs from a corner only in the degree of control over available supplies.<sup>4</sup>

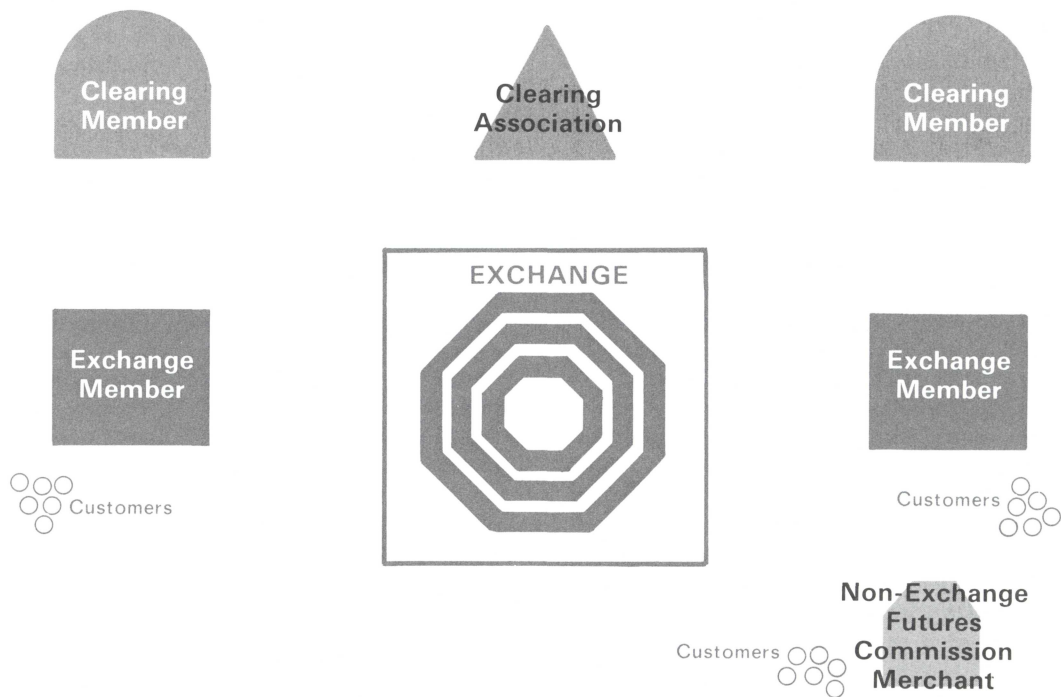
For example, a contract purchaser (long) who holds contracts in excess of deliverable supplies can threaten to take delivery on the contracts, forcing a contract seller (short) to bid up the contract price in order to exit the market. In two separate incidents in the Chicago Mercantile Exchange's egg futures market (1947, 1952) and in the Chicago Board of Trade's wheat futures market (1963), price manipulation of this kind was successfully litigated. A short could also manipulate prices by threatening to make delivery on the contracts sold, if the short holds a large amount of the deliverable supply initially.

Because of the large, liquid supplies of instruments underlying financial futures and futures options, the potential for corners and squeezes in these markets is low. Cash settlement also decreases the potential for manipulation because the manipulator must then affect the various instruments of the cash series upon which settlement is based.

As a first line of defense against manipulation, the CFTC imposes certain standards on the exchanges for new and continuing contracts. For approval, the contract must be shown to be in the public interest and it must satisfy an economic purpose test. The exchanges must provide for the prevention of price manipulation, of the dissemination of false or misleading information, and of delivery conditions conducive to corners, squeezes, and market congestion that would destabilize prices. After contract approval and market designation, these criteria must continue to be met to retain CFTC approval.

Whether threat of manipulation is so serious in futures markets that contract innovations should be restricted by prior CFTC approval is arguable.<sup>5</sup> Indeed, the number of futures market manipulation cases is small given the volume of contracts traded over the years.<sup>6</sup> Because its reputation and long-run

## Participants in the futures market



survival are at stake, it is in the self-interest of an exchange to develop new contracts that maximize public acceptance and use. If the potential for manipulation is high, contract trading will dwindle and the costs incurred to develop the contract will be at risk. In addition, competition for viable contracts between exchanges forces the redesign of those contracts that show a high propensity for manipulation. Public knowledge of contract characteristics and market conditions, repeat transactions with open outcry trading, and position reporting requirements all increase the cost of successful and undetected manipulation.

On the other hand, prior CFTC scrutiny and approval does not guarantee the lack of manipulation and imposes substantial cost. The costs of delayed approval by the CFTC include the loss of economic benefits provided by derivative markets until trading is approved. And, since the current regulatory structure does little to preserve the property

rights to a new idea, true contract innovations that may benefit society are inhibited. It may be more cost effective to allow exchanges free choice in the products and precautions they offer the public and instead impose stiff penalties to deter manipulation.

The CFTC requires the exchanges to set speculative position limits on their contract markets to avoid excessive concentration and incentives for manipulative practices. Exchange clearing associations also set position limits for clearing member firms. Position limits do not usually apply to bona fide hedging, where risk reduction is the key motivation, except that exchanges may limit those hedge positions that pose a threat to orderly trading.

Speculative position limits in futures markets generally follow a two-tiered structure: an overall limit on the net futures position held by any one trader in all delivery months combined, and a lower position limit applied to specific contracts held during the expiration



month. In options on futures, a single speculative limit applies separately to gross long and short positions. The number of options exercised is not limited since the exercise of a futures option creates a futures position that is limited.

Unless position limits are set at a level where they are not a constraint for any trader, they can interfere with the realization of economic benefits provided by derivative markets. Position limits that would promote the orderly liquidation of expiring contracts may be unduly restrictive in contracts that are not close to expiration. The price discovery function of derivative markets may then be inhibited if traders constrained by position limits cannot act in full accordance with their beliefs about future prices. A telescoping schedule that narrows position limits as contract expiration nears or position limits expressed as a percentage of contract open interest are alternatives that might impose fewer social costs on the operation of these markets.

**Misuse of market information and broker trading before the customer.** The misuse of market information can take one of two related forms: frontrunning or insider trading. Frontrunning occurs when trades are made based on non-public information of impending market transactions, so that profits are generated when the information becomes public. Frontrunning is not per se illegal under CFTC regulations, but it may be prohibited depending on the circumstances of a particular situation. The determination of a violation is left to the CFTC.

Insider trading in derivative markets refers to trading based on material non-public information about a specific impending market, firm, or governmental action; unlike insider trading in securities, it does not imply the breach of a fiduciary relationship. The CFTC and the exchanges do not prohibit insider trading based on firm-specific information, except for trading by exchange or clearing corporation staff.

At first, it may seem odd that frontrunning and insider trading are not per se illegal under current regulations. The economics of insider trading, however, suggest that this may be a reasonable situation.<sup>7</sup> Derivative market contracts are not securities like stocks or bonds issued by a commercial hedger; such

a trader is not under any fiduciary obligation to avoid profiting from contract trading. Because commercial hedgers possess firm-specific information, the outright prohibition of all insider trading would be equivalent to eliminating the risk transfer function of derivative markets and, in the long term, the markets would die for lack of hedgers.

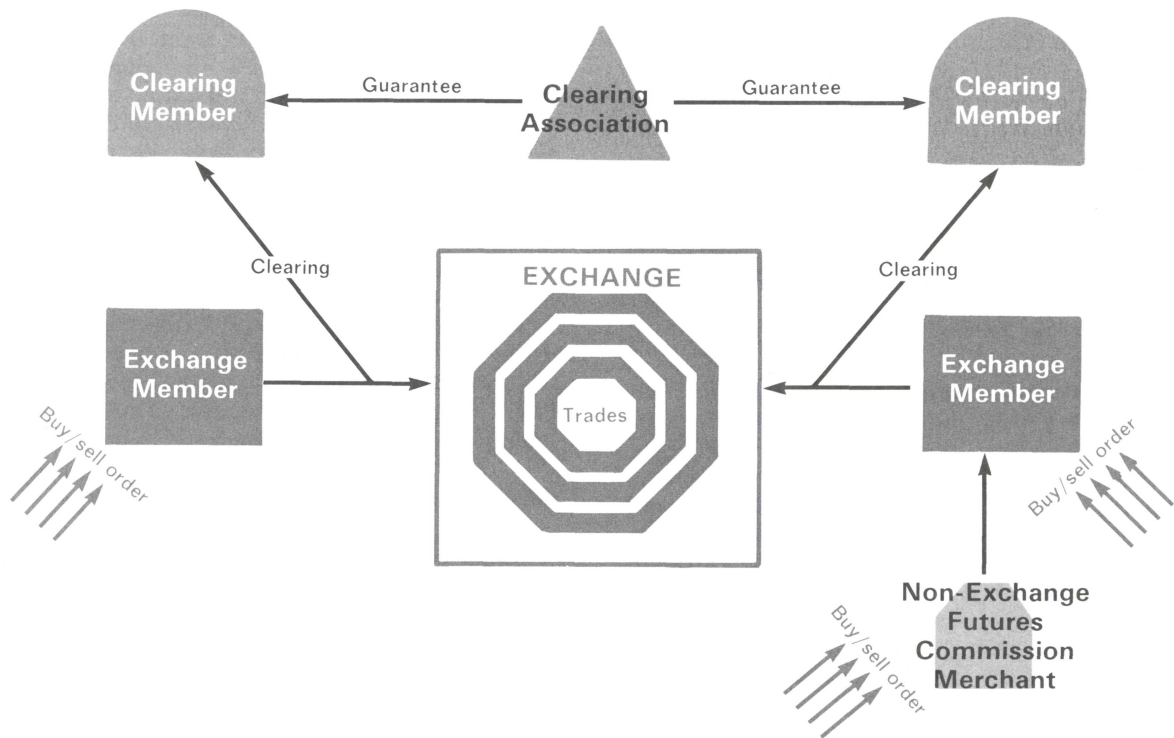
The question remains whether or not an insider trading prohibition for speculators would enhance the economic functions performed by derivative markets. If derivative markets provide a place where speculators can trade and profit on the basis of heterogeneous (private) information, and hence have an incentive to collect (private) information, the contract price will aggregate and reveal information that augments each individual's own information set. The price discovery and basing functions of derivative markets are thereby facilitated.

Furthermore, if traders participate in these markets to earn a return on private information they have collected, the liquidity of the markets will increase and the costs of risk transfer by hedgers will be reduced. Of course, insider trading can also increase the risk of market participation for other members of the public or reduce confidence in the market because of an "unfair" trading environment. Because it is in the self-interest of exchanges to prevent insider trading that reduces the volume of transactions, they will do so to the extent that the specific abuses can be identified. Although insider trading is a crime when practiced in the securities market, it is not illegal when practiced on futures exchanges because futures exchanges do not trade contracts on individual equities or debt instruments. Thus the concept of insider trading may not be directly applicable.

Front running is more difficult to deal with. Certain futures market participants are permitted to trade for their own account as well as for their customers, i.e. futures commission merchants (FCMs) and floor brokers. This presents a potential conflict of interest because the dual trader may take a trade away from a customer or take advantage of a price change caused by a customer's order. Federal regulations do not prohibit dual trading but instruct the CFTC to determine the situations under which dual trading can occur. CFTC rules only prohibit floor brokers from trading ahead



## The flow of futures trades



of their customers. To detect violations of this rule, the exchanges are directed to establish audit trail mechanisms that detail the flow of market orders to the floor and through their execution.

In the past, the rule required that the time of execution of each trade must be recorded at 30-minute time periods and that an order must be time-stamped when it reaches the floor and at the time of reported execution. The CFTC recently established a regulation that will reduce the 30-minute recording bracket to a one-minute recording bracket to help prevent dual trading abuses. The objective of one-minute bracketing is to reduce the number of cases in which the sequence of prices within a 30-minute bracket makes it impossible to determine whether or not a dual trading broker traded ahead of a customer. Research, however, suggests that few additional dual

trading violations would be uncovered by implementation of this more stringent rule.<sup>8</sup>

The reasons for this assessment are as follows. First, a significant amount of trading in most derivative markets occurs at the open and close of the market; in these instances, even a one-minute bracketing is too long a time period to sequence prices adequately. Second, open outcry trading and competition among brokers imposes a market discipline that inhibits dual trading abuses, keeping overall incidence at low levels. Since dual trading abuses generate profits at the expense of other traders, the offending trader may be ostracized from transactions under the open outcry trading system. A study of hardware and back-office costs and decreased market efficiency due to the impact of the recording process itself on trade execution suggests that the more stringent regu-

lation fails a cost-benefit test. It may be better to prohibit dual trading altogether.

### **Financial integrity safeguards**

Like other financial markets, futures and futures option markets are subject to the risk that the parties to a transaction will default on their contractual obligation. Margin requirements and the daily mark-to-market provisions of exchange operation are the most important controls for assuring the performance of contractual obligations; clearinghouse operations also protect against default by market professionals and against the concomitant spillover effects on the entire financial system.

**Futures margin requirements.** Futures margins are fundamentally different from equity margins. In the latter, the margin represents the extent to which credit can be used in the purchase of an equity position; in the former, the margin represents earnest money or a performance bond held by the broker to assure contract performance. Because futures margins are expressed as a dollar amount per contract, frequent changes in the futures margin are required to make it reflect a true earnest money deposit. Any futures margin monies held by the broker are returned when a customer offsets a previously established position and exits the market. Thus, futures margins do not reflect a customer's investment in a futures position but are merely the deposit required to initiate a position and keep it open.

Two types of margin requirements are usually specified by the exchanges and their clearing corporations: initial margin and maintenance or variation margin. Initial margin is the earnest money required to open a futures position. Maintenance margin, usually set at a level lower than the initial margin, reflects the level below which the earnest money deposit cannot fall during the life of the open futures position.

Futures-type margining is not required on purchases of futures options. Sellers, however, must deposit and maintain margin equal to the margin on the underlying futures contract plus the option premium.

The amount of earnest money held by the broker in the customer's account changes due to the daily mark-to-market provisions of exchange and clearing corporation operation.

As the value of a contract position is marked-to-market (at least daily) and effectively set to zero, all profits and losses are passed through to the respective market participants. Thus, as market prices move against a customer's position, margin money is paid out; if the margin account falls below the maintenance margin level, the broker will make a margin call to the customer to replenish the margin account. If the customer does not meet the margin call, the broker may add funds to the customer's margin account, effectively creating a loan to the customer, or liquidate part or all of the customer's futures position until the maintenance margin is met.

Assets that can serve as initial margin are cash, Treasury securities, non-cash/non-security assets at 80% of value, and commercial bank standby letters of credit. Maintenance margin monies must be deposited in cash.

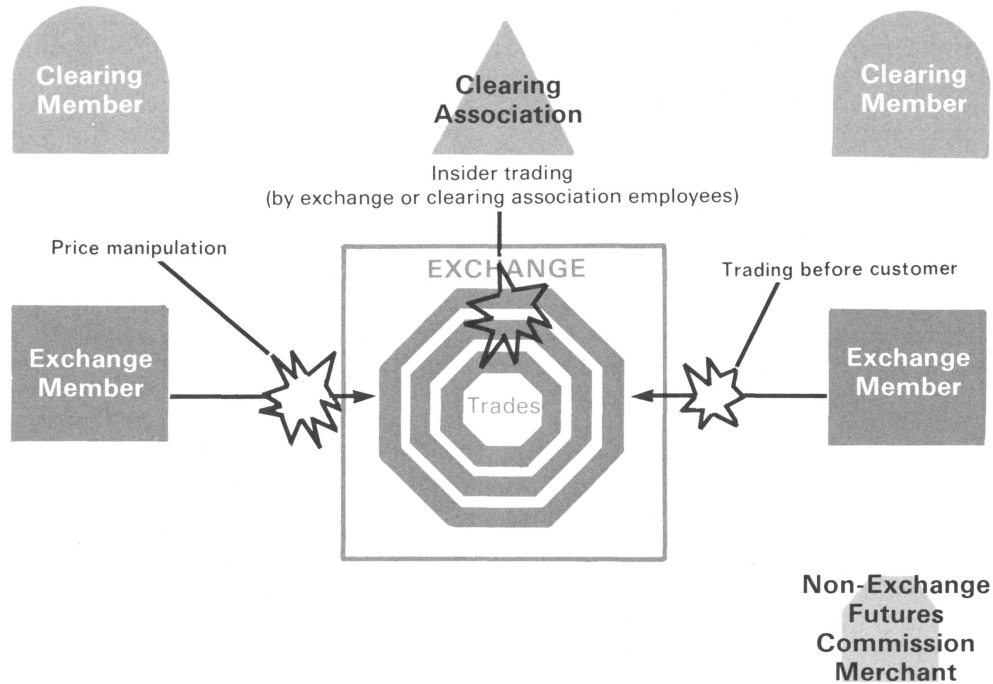
Margin requirements are set and enforced at three different levels. Exchange clearing associations set margin requirements for their clearing members on either a gross or net position basis, depending on the association. Exchanges set minimum margin requirements for their member FCMs specific to a particular contract and to whether the position is for speculative, hedging, or spreading purposes. Finally, FCMs set margin requirements for their customers that may exceed exchange minimums depending on the contract and type of position taken.

Although the clearing associations and exchanges require all margin accounts to meet the regulated levels at least daily as a condition for trading, FCMs may allow their customers more time to augment their margin accounts. If after three days the customer's margin account is still undermargined, however, the FCM must charge off the deficit to its equity capital.

In general, the setting of minimum margin requirements is expressly the domain and responsibility of the exchanges and their clearing associations; they are usually set to cover 95-100% of the permissible price change in a market over a day's trading. Margin requirements and mark-to-market provisions help assure the financial integrity of futures markets by allowing all position values to be settled every trading day.

The value of futures margin requirements as a device to control manipulative practices

## Trading violations



and speculative activity is limited.<sup>9</sup> Nevertheless, a continuing controversy exists over whether or not margin setting authority should be taken away from individual exchanges and given to the CFTC or the Federal Reserve for just that purpose. To see why altering margin levels is an ineffective tool for reducing excessive speculation, first note that interest-bearing securities can be used to post initial margin. If a trader willingly holds a portfolio of these securities of greater size than is needed to support a futures position, there is no opportunity cost of trading and margin changes have no effect on behavior. But if margins do impose opportunity costs, then, as margins are increased to inhibit speculative pressures and volatile market conditions, the loss of market participants and the decline in open interest and volume could make the market less liquid and even more volatile. With the loss of liquidity, small transactions can move the market. On the other hand, if exchanges set

margins too low relative to the variability of prices to encourage trading activity, the frequent initiation and involuntary liquidation of positions may also increase the volatility of market prices.

As an example of the limited effect that margin changes have in controlling speculative activity, consider the silver futures crisis of 1979-1980. From September, 1979, to January, 1980, silver futures prices on the nearby contract rose from \$11 per oz. to \$42 per oz., then fell to \$16 per oz. by March, 1980. During the price run-up, the contracts expired with congestion in deliveries; during the price fall, a major brokerage concern came close to failure. Margin requirements were raised from \$3,000 per contract in September, 1979, to \$75,000 per maturity month contract in January, 1980.

The net effect of these margin changes was to drive the less well-capitalized traders from the market, leaving only those with "deep pockets" to determine the movement of prices.



As a result, average daily volume in the nearby contract fell from 6,187 contracts in September, 1979, to 1,979 contracts in January, 1980. But the increase in margin requirements had little impact on the speculative bubble. Indeed, the price bubble was only broken in January, 1980, by a temporary emergency order imposed by the exchange that trading would be permitted only for position liquidation purposes, except for new short positions made solely for the purpose of delivery.

Margins are useful as performance bonds. They do not seem to be particularly effective as a tool to manage market price movements.

**Clearinghouse operations.** The exchange clearing association stands ready to make good the contract exposure of its clearing members. The clearing association interposes itself between the contract buyers and sellers for all trades. This role lowers transaction costs, facilitates market liquidity, and substitutes clearinghouse default risk for the default risk of contract principals. The clearing association is a key institution in futures market operations. A potential problem that appeared in the silver crisis of 1979-80 is that doubts can arise about the ability of the clearing association to carry through on its obligations if a clearing member experiences financial difficulty.

Although clearing associations impose requirements and restrictions on their members and collect margin monies to cover their members' obligations, the last backstop to assure financial integrity lies with the indemnification funds and self-insurance agreements clearinghouses have with their memberships. Indemnification funds vary in structure across the industry and are financed by direct member deposits, portions of subscribed capital, general revenues, or surplus capital.<sup>10</sup> Minimum direct clearing member deposits vary from zero to \$2 million per clearing member.<sup>11</sup> If a member should default and the clearing association's obligations exceed the indemnification fund, the liability of the solvent members may be unlimited or limited depending on the exchange. Members may face additional assessments to cover the deficit without limit or up to a predetermined cap. In some cases, they may not be liable at all for additional assessments.

Even if a clearing member is faced with unlimited liability, this liability may be limited

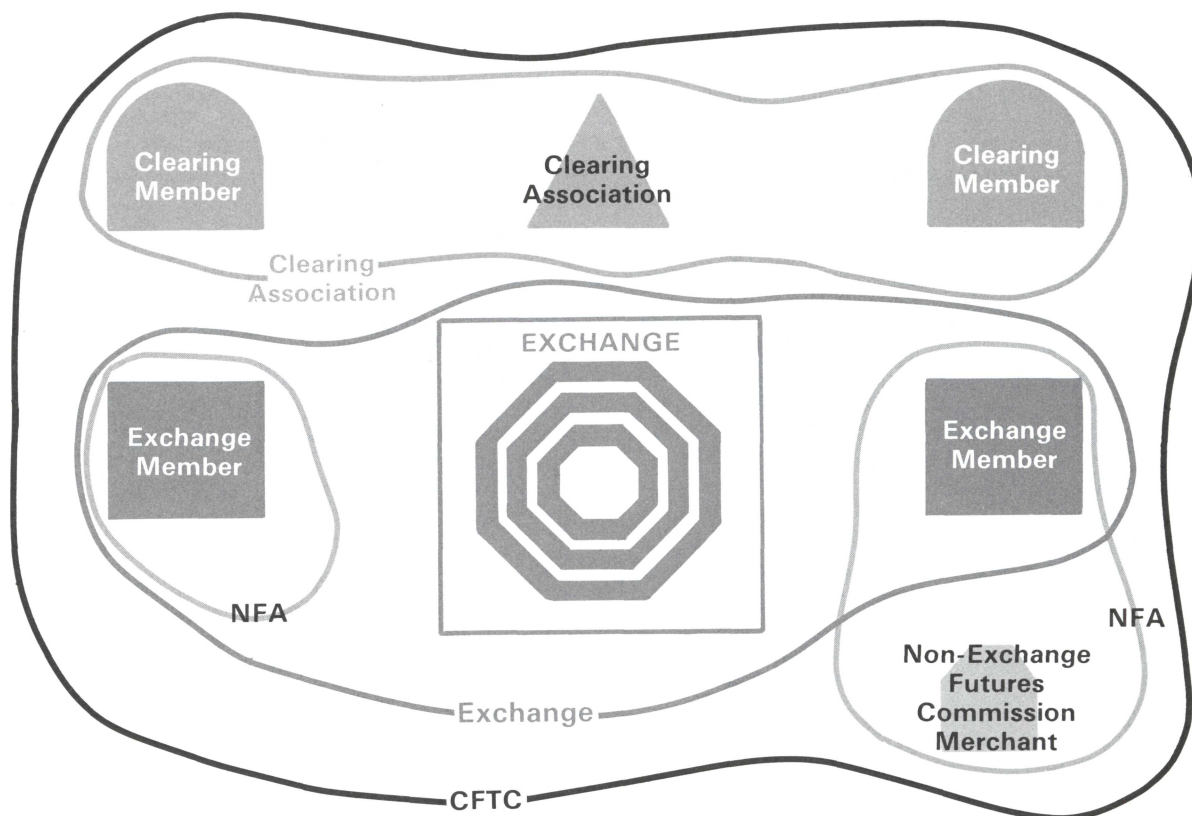
by going bankrupt. The limited liability implicit in bankruptcy was particularly apparent to industry participants after the silver crisis of 1979-80, when clearing members became aware of their exposure in the event of a major futures contract default. The response of brokerage firms was to establish "shell" subsidiaries that specialize in derivative market trading and have a limited claim on the parent company's assets. The Chicago Board of Trade Clearing Corporation recently made a policy change (effective September 1, 1986) that requires parent companies to guarantee all proprietary trades undertaken by member futures subsidiaries. This appears to be the first attempt by a clearing association to counter the effect of "shell" clearing members on the solvency of the futures industry clearing system. Given the importance of clearing association financial integrity for contract trading and the membership overlap among different clearing associations, a default by a major association would have a substantial effect on the entire financial system. To date, no U.S. futures clearing association has ever failed to fulfill its guarantor responsibilities.

Since a clearing association is a legal party to every trade, it always has an equal number of long and short positions to guarantee. The legal obligations of a clearing association extend only to its clearing members and it only deals directly with them. Usually, the clearing association collects margin from its members on their net contract position. That is, both the clearing member and the clearing association transfer variation margin monies when contract prices change.

In this kind of margining system, the clearing member guarantees the funds transfer to the extent that it clears an equal number of long and short positions and the clearing association guarantees the funds transfer on the difference between the long and short positions cleared by its member. Both the clearing association and the clearing member's customers thus have an interest in the financial integrity of the clearing member under such a net margining system.

To understand the importance of and roles performed by a clearing association, consider the following example. Suppose a contract has been trading in a sideways market for several months. Suddenly, there is a sharp run-up in the price of the contract's underlying

## Zones of futures regulation



commodity and the contract's price also rises significantly. The clearing member makes a margin call to its short customers in order to transfer funds to its long customers and to the clearing association.

The price change is so great, however, that the short customers cannot make the margin call and default. When the clearing member turns to the initial margin deposit to cover the deficit, it is grossly insufficient. In order to cover its margin deficit, the clearing association looks to the margin deposits of the clearing member but also finds them to be insufficient and the clearing member defaults. In order to transfer funds to other clearing members, the clearing association falls back on a portion of the indemnification fund because it continues to clear trades in other contract markets and it obtains a bank loan.

The clearing association then liquidates the net position and also has the option of moving the fully margined customers of the

defaulting clearing member to a solvent member or liquidating their positions in the market. It decides to liquidate these positions in order to avoid establishing a precedent that customers of thinly capitalized clearing members will be protected by the clearing association. Finally, to prevent a permanent depletion of the indemnification fund, the clearing association imposes an increase in the per trade assessment on all other clearing members.

This sequence of events actually occurred in March, 1985, in the gold futures options market of the Commodity Exchange Inc., New York.<sup>12</sup> The sharp run-up in the price of gold futures was in part precipitated by the fear that the Ohio savings and loan crisis threatened the American banking system. The defaulting clearing member was Volume Investors Corporation; the clearing association was the Commodity Exchange Clearing Association Incorporated. The financial effects of this episode on the clearing association, non-defaulting



## General economic issues

There are a number of economy-wide implications of trading in derivative markets. Two of the most important are discussed here.<sup>1</sup>

**Capital formation issues.** The primary concern here is that futures and options markets divert financial capital away from the purchase of stocks, bonds, and real capital assets.<sup>2</sup> For this argument to hold, however, the amount of financial capital available for these purposes must be fixed before a substitution between uses is meaningful. The problem with applying this argument to futures and options markets is that trading accounts are margined in a way quite unlike margin in equity markets. As mark-to-market payments (variation margin) occur over the life of the open position, the cash payments merely redistribute funds from one side of the transaction to the other. Therefore, the concern that these derivative markets will have an adverse effect on real capital formation is unjustified.

Note that the effects of trading in derivative markets are less clear-cut on decisions to allocate the stock of real capital. The ability to transfer risk exposure via derivative markets implies more capital may be allocated to risky activities by hedgers. If this risk is transferred to speculators, they may in turn reduce their holdings of other risky assets, which counteracts the decisions of hedgers. This argument applies if speculator margin accounts are not covered by prior T-bill holdings. Because the markets are too new to reach any definitive conclusions empirically, one can neither support or deny the adverse effects of derivative markets on the allocation of capital.

**Cash market price stability.** In the absence of abusive practices, does speculation tend to increase the volatility of prices in underlying cash markets? Fundamentally, speculators should help make prices more stable over time because they buy when prices are low and sell

when prices are high. But this presupposes that speculators have accurate expectations about the future. If speculators act on inaccurate forecasts, then the potential for price destabilization is very real. One must then appeal to natural selection to winnow out those speculators that consistently make bad predictions. If these speculators are replaced by equally inept new entrants, the natural selection process is inhibited and the potential for price destabilization persists. Empirical work (primarily event studies) generally concludes that the volatility of underlying markets is not adversely affected by speculation in derivative markets, although short periods of increased volatility cannot be ruled out.<sup>3</sup>

A recent issue that remains to be addressed is the responsibility for the volatility observed at the simultaneous expiration of index options, stock options, and index futures contracts, i.e. the "triple witching hour" phenomenon. This volatility is perceived as a threat to the small investor whose order may be swamped by the sudden price changes that occur at these once-a-quarter events. At the center of the problem is a form of program trading called index arbitrage, that is, the simultaneous purchase or sale of stocks against short or long derivative market stock index contracts for the purpose of profiting from any relative mispricing. At expiration, the futures position is offset and the arbitrageur wishes to liquidate the stock position at the cash-settlement price of S&P 500 futures index. Since this settlement price is determined by the closing prices of the underlying stocks, "market on close" orders are sent to the stock market. Therefore, it is the way in which arbitrage positions are unwound at expiration that causes stock price volatility in the last hour of trading (the "triple witching hour"). Unpredictable and large orders come to market in



such a short time period that it is not possible to marshal offsetting orders.

But is this phenomenon really a problem? First, investors have the option of avoiding the market on the four days a year when simultaneous expirations occur. Second, the overall benefits of index arbitrage must be weighed against the costs of short-term increases in volatility. Arbitrage insures that derivative market prices stay in alignment with the price of the underlying instrument. Third, other forms of program trading can be as equally disruptive as index arbitrage, such

as block trading in asset reallocation schemes. Unpredictable block trades pose the same threat to small investors as index arbitrage yet no one has suggested curtailing this activity. In sum, the expiration-day volatility may be just a temporary phenomenon that will correct itself as market participants gain sophistication.

<sup>1</sup>For a discussion of other economy-wide implications, see Board of Governors of the Federal Reserve System, Commodity Futures Trading Commission, and Securities and Exchange Commission (1984), Chapter 6.

<sup>2</sup>See Jaffee (1984) for further discussion.

<sup>3</sup>For example, see Bortz (1984) and Figlewski (1981).

clearing members, and fully margined customers of Volume Investors might have been mitigated if: 1) Volume Investors had collected sufficient initial margin from its short customers to cover the potential price run-up; 2) stricter position limits had been imposed by the exchange; 3) the clearing association required its members to be better capitalized; or 4) the clearing association had imposed stricter position limits on its clearing members. Although the clearing association, as regulator, performed reasonably well in preventing the default from spilling over into other markets, it is apparent that clearing association actions can affect trading customers, who have no inherent special protection from clearing associations.

## Conclusion

The fundamental strength of the current structure of futures market regulation lies in its self-regulatory emphasis. Self-regulation is desirable because of its effectiveness, efficiency, and flexibility, and because it reduces direct regulatory expenditures by government. The CFTC can delegate regulatory functions to the exchanges and registered futures associations as long as CFTC oversight is maintained.

In this regulatory scheme, the exchanges realize that they alone are responsible for enforcing their rules and that their survival depends on how well they maintain the integrity of their markets. If an exchange is not in compliance with its own responsibilities, the

CFTC can take an enforcement action to correct the problem. If a sufficient level of compliance with an exchange's self-regulatory responsibilities is present, the CFTC can delegate more responsibility to the exchange, streamlining the federal role in futures regulation even further.

Futures markets and their regulatory environment are highly complex. Although this article could not deal with all the regulatory complexities in detail, the flexibility in the current structure should be apparent; this flexibility is key in meeting the challenges facing the industry.

New contract innovation and approval is one of these regulatory challenges. Newly introduced contracts include: a macroeconomic index contract based on the CPI, a trade-weighted dollar index contract, and a futures contract on the Commodity Research Bureau's Futures Price Index. Contracts proposed for trading include: macroeconomic index contracts based on housing starts and retail auto sales, a repurchase agreement contract, and contracts on debt instruments and foreign stock indexes denominated in foreign currencies.

A second challenge is the proper regulation of off-exchange contracts, such as dealer options and leverage contracts. A third is the international linkage of futures exchanges and the regulatory jurisdiction of the CFTC. To the extent that this article stimulates our thinking about these and other important issues

in futures regulation, it will have served its purpose.

<sup>1</sup> For further discussion and elaboration on the rationale behind futures regulation, see Houthakker (1982), Stone (1981), and Phillips (1984).

<sup>2</sup> See Gregory (1983) for the early history of the Chicago Board of Trade.

<sup>3</sup> With CFTC authorization, temporary emergency rules cannot remain in effect more than 90 days.

<sup>4</sup> A squeeze and a corner are usually differentiated according to the situation in the underlying instrument. A corner implies control of the underlying instrument market by contract purchasers; a squeeze does not imply control but, to be successful, requires limited supplies of the underlying relative to contract positions.

<sup>5</sup> Recently, this question has been asked and investigated by a number of researchers. See

Easterbrook (1986), Fischel (1986), and Silber (1981).

<sup>6</sup> See Edwards and Edwards (1984) for seven major case law litigations.

<sup>7</sup> See Anderson (1984), Dinehart (1986), and Grossman (1986) for further discussion.

<sup>8</sup> See Grossman and Miller (1986) for cost-benefit estimates.

<sup>9</sup> See Edwards (1983a), Fische and Goldberg (1986), and Hartzmark (1986) for further discussion.

<sup>10</sup> See Edwards (1983b) for an excellent review of futures clearing associations.

<sup>11</sup> See Board of Governors of the Federal Reserve System (1984), pp. 92-100.

<sup>12</sup> For a discussion of these events, see "The Guarantee That Wasn't There," *Intermarket*, July 1985, pp. 38-48.

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