United States General Accounting Office

GAO

Fact Sheet for the Chairman and Ranking Minority Member, Committee on Agriculture, Nutrition, and Forestry, U.S. Senate

April 1990

FUTURES MARKETS

Information on Six Foreign Automated Trading Systems

GAO/IMTEC-90-43FS

GAO

United States
General Accounting Office
Washington, D.C. 20548

Information Management and
Technology Division

B-234478

April 27, 1990

The Honorable Patrick J. Leahy, Chairman
The Honorable Richard G. Lugar, Ranking
Minority Member
Committee on Agriculture, Nutrition, and
Forestry
United States Senate

Exchanges worldwide use various automated systems to trade futures contracts and options on futures contracts.[1] Our September 1989 report on the benefits and vulnerabilities of using automation for futures trading noted that six exchanges, two in Japan and one each in Australia, England, New Zealand, and Switzerland, use or plan to use automated systems for trading futures.[2] Your office asked for additional information on these systems. Specifically, our objective was to provide background information on each system, including: when the exchanges began automated futures trading, their current or planned operating hours, the types and volumes of contracts traded, and the exchanges' automated trading processes.

Results in Brief

Our review showed that four exchanges use or plan to use their automated trading systems to trade all their futures contracts, while two retain more traditional trading processes and use their automated systems for after-hours trading. Since 1985, the New Zealand Futures Exchange has used automated trading systems for all its futures trading. Similarly, the Tokyo Stock Exchange and the Tokyo International Financial Futures Exchange have used automated trading systems for futures trading since 1988 and 1989, respectively. The Swiss Options and Financial Futures Exchange also plans to use its system for all futures trading later this year.[3] Conversely, the Sydney Futures Exchange and the London International Financial Futures Exchange, which began automated futures trading in 1989, use their systems for

[1] A futures contract is an agreement to buy or sell a commodity for future delivery at a price determined at initiation of the contract. An option on a futures contract gives the buyer the right, but not the obligation, to perform on the terms of the contract within the life of the option. For purposes of this report, trading of futures contracts and options on futures contracts is referred to as futures trading.

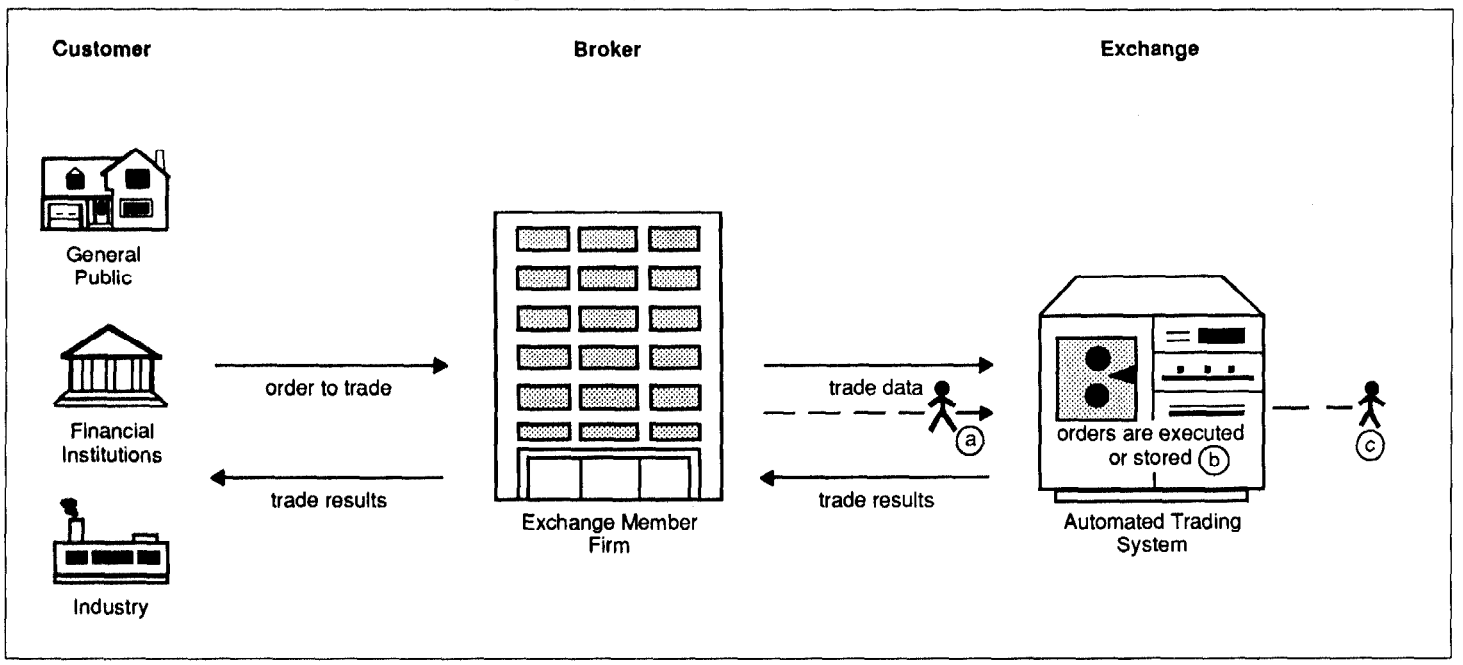
[2] Futures Markets: Automation Can Enhance Detection of Trade Abuses But Introduces New Risks (GAO/IMTEC-89-68, Sept. 7, 1989).

[3] Although the Swiss Options and Financial Futures Exchange is not scheduled to start trading futures contracts until the fall of 1990, the system is currently used to trade options on securities.

Customer Order Flow on Six Foreign Exchanges' Systems

Our review of automated trading systems used by the six foreign exchanges found that similar processes are used for futures trading, and that such trading is limited to exchange members. Other organizations and individuals that want to trade futures must place their orders through exchange member brokers.[1] However, we also found that differences exist in how some systems receive customer orders and in how trades are matched. Figure II.1 depicts the typical customer order flow through the six automated systems.

Figure II.1: Customer Order Flow on Six Foreign Exchanges



[a]Tokyo International Financial Futures Exchange only; an exchange clerk inputs trade data received from member brokers.

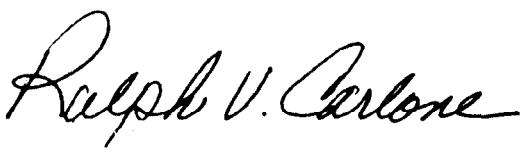
[b]Unmatched orders are stored in price and time priority for possible execution, with the exception of the London International Financial Futures Exchange system which requires orders to be periodically reentered rather than storing them.

[c]Tokyo Stock Exchange only; system provides an order-matching member with matched and unmatched orders; the order-matching member inputs instructions to execute trades.

The systems used by the New Zealand Futures Exchange, the Swiss Options and Financial Futures Exchange, and the Sydney Futures Exchange automatically execute trades submitted by member brokers when buy and sell prices coincide. The systems maintain and prioritize

[1]A broker is an agent who buys or sells for a principal on a commission basis.

This work was performed under the direction of Howard G. Rhile, Director, General Government Information Systems, who can be reached at (202) 275-3455. Other major contributors are listed in appendix III.



Ralph V. Carlone
Assistant Comptroller General

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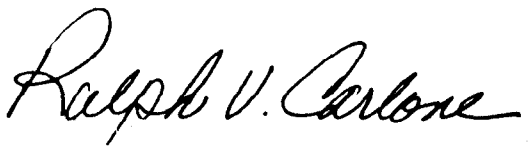

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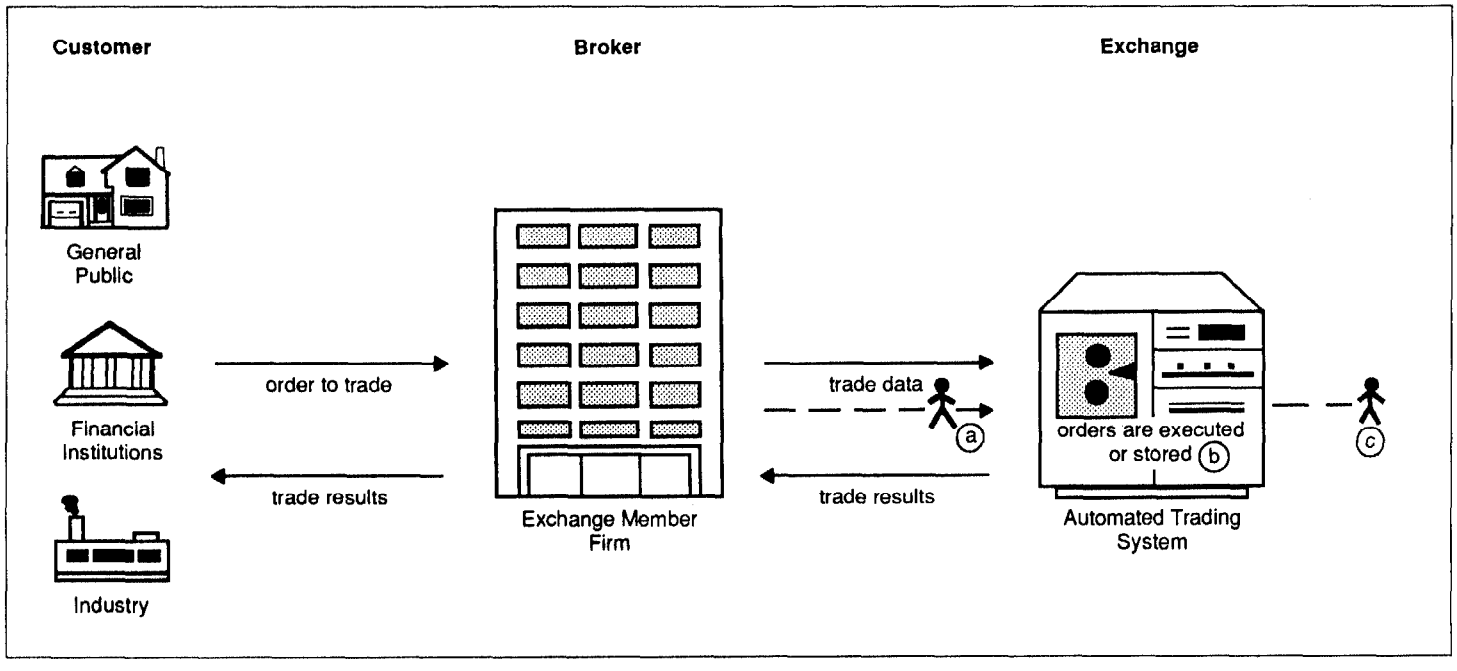

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