AUTOMATIC FINANCIAL INSTRUMENT TRANSACTION SYSTEM

[0001] This application claims the benefit of U.S. Provisional Application No. 61/020,138, filed Jan. 9, 2008, U.S. Provisional App. Ser. No. 61/020,374, filed Jan. 10, 2008, U.S. App. Ser. No. 12/014,027, filed Jan. 14, 2008, and U.S. Provisional App. Ser. No. 61/022,591, filed Jan. 22, 2008. Each is incorporated by reference.

BACKGROUND

[0002] This application relates to computer trading systems for financial instruments.

SUMMARY

[0002a] According to an aspect of the present invention, there is provided an apparatus of an electronic market, the apparatus configured for facilitating an electronic trading network including remote trader devices, a remote clearinghouse and first and second remote exchanges, the apparatus including: a computing device; a non-transitory medium having stored there on a plurality of instructions that, when executed by the computing device, cause the electronic market to: receive, over a communication network from the remote trader devices of each of a plurality of parties, orders to buy and sell a listed bond futures contract; in response to receiving the orders, cause to execute trades of the bond future contract to establish and sell positions in the bond futures contract; in response to the end of a first trading day, determine, based on the executed trades, a respective net trading position in the bond futures contract by reducing a gross trading position in the bond future contract with offsetting trades in the bond futures contract; in response to the end of a first trading day, for each of the net trading positions in the bond future contract, determine a respective bond and a respective first price for the bond based on a respective second price of the bond future contract; in response to the end of a first trading day, for each of the net trading positions in the bond future contract and based on the respective first and second prices, enter orders on behalf of the plurality of parties, over the communication network, with the remote clearinghouse to transfer a first net position in the bond future contract into a second corresponding position in the respective bonds; automatically in response to determining, based on best bid price information or best offer price information on the first remote exchange, that a resting order to buy or sell a bond futures contract on the first remote exchange satisfies an order routing preference, control trading of the resting order on the first remote exchange and routing an order to transfer a net position of the traded resting order into a position in a bond corresponding to the traded resting order from the first remote exchange to the second remote exchange such that the resting order is on the first remote exchange at least a predetermined number of milliseconds once the order routing preference is determined to be satisfied, in which the second remote exchange is preferentially selected based on a length of a routing time for routing the order to transfer the net position of the traded resting order over the communication network from the first remote exchange to the second remote exchange; in response to the beginning of a second trading day, in which the second trading day is the soonest trading day that is after the first trading day, for each of the positions in the

bonds, determine a respective third price of the bond and a respective fourth price of the bond future contract; and in response to the beginning of the second trading day and based on the respective third and fourth prices, for each of the positions in the bonds, enter orders on behalf of the plurality of the plurality of parties, over the communication network, with the remote clearinghouse to transfer the second corresponding position in the bonds back into the first position in the bond future contract.

[0003] Disclosed herein is a computer network to provide redundancy for a first transaction clearing computer. The first transaction clearing computer is a computer for clearing for trades for financial instruments of a first type. The network includes terminals, a second server, and a transaction processor. The terminals are trading stations for traders of the first type of financial instruments. The second server is designed to clear trades of a second type of instrument. The transaction processor is programmed to communicate network messages with the second server to effect trades in the second type of instrument over time, the messages containing data describing transactions in the second instrument having times and prices designed to create the functional effect of holding the first instrument.

[0004] Disclosed herein is a method, and computer apparatus for performance of the method. On an electronic trading system for trading assets of an asset type, trades are executed among traders of assets of the traded asset type, the traded asset type being a derivative of an underlying asset type. From time to time and as a component of the contractual relationship among the traders of the trading system and the trading system itself, traders' positions in the traded asset type are transferred into positions in the underlying asset type for a period of time, and later the positions in the underlying asset claims are transferred back into positions in the traded asset type.

[0005] Disclosed herein is a method, and computer apparatus for performance of the method. During trading days, assets of a type are traded among traders on an electronic trading system. At about the close of trading days, positions held by traders are transferred from the traded asset type to positions in another asset type. At about the opening of trading days, the traders' positions are transferred back from the other asset type to the traded asset type

[0006] Disclosed herein is a method, and computer apparatus for performance of the method. As a systematic feature of a market made by an electronic trading system, and computer apparatus for performance of the method. A first trade is placed with a clearing agent for delivery at a future settlement time; and a second trade opposite the first trade is placed with the clearing agent for opposite delivery at substantially the same future settlement time, thereby netting out the first trade. The offset between the first and second trades is used as a synthesized financial instrument.

[0007] Disclosed herein is an apparatus having a processor and a memory. The memory stores representations of a plurality of positions in a first type of financial instrument. The processor is programmed (a) at a first predetermined time, to convert each position in the first type of financial instrument into a corresponding position in a second type of financial instrument, and (b) at a second predetermined time that is after the first predetermined time, to

convert each position in the second type of financial instrument into a position in the first type of financial instrument.

[0008] Disclosed herein is a method. Trades of bond future contracts are executed on a computer-based apparatus. After a first predetermined time, a plurality of positions in bond future contracts are transferred into corresponding positions in bonds, in which each position corresponds to one bond future contract. After a second predetermined time that is after the first predetermined time, each of the positions in the bonds are transferred back into a corresponding position in a bond future contract.

[0009] Disclosed herein is an apparatus having a processor and a memory. The memory stores representations of a plurality of bond future contracts, in which each futures contract defines a long position and a short position. The processor is programmed to: (a) after a first predetermined time, for each bond future contract, calculate a first price of bonds based on the bond futures contract and enter, with a clearinghouse, a buy trade and a sell trade for the bonds at the first price; and (b) after a second predetermined time that is after the first predetermined time, for each of the buy trades and the sell trades, enter with the clearinghouse, a second sell trade and a second buy trade for the bonds at a second price.

[0010] Disclosed herein is a method, and computer apparatus for performance of the method. Trades of bond future contracts are executed on a computer-based apparatus. After approximately the end of a first trading day, for each of the positions in the bond future contracts, a respective bond and a respective price for the bond is determined based on a price of the bond future contract. The position in the bond future contract is transferred into a corresponding position in the respective bonds. Approximately at the beginning of a second trading day, being the soonest trading day that is after the first trading day, for each of the positions in the bonds, a respective price of the bond and a respective price of the bond future contract are determined, and the position in the bonds is transferred back into a corresponding position in a bond future contract.

[0011] The above advantages and features are of representative embodiments only, and are presented only to assist in understanding the invention. It should be understood that they are not to be considered limitations on the invention as defined by the claims. Additional features and advantages of embodiments of the invention will become apparent in the following description, from the drawings, and from the claims.

DESCRIPTION OF THE DRAWINGS

[0012] **FIG. 1a** is a diagram of entities in an automated trading system.

[0013] **FIG. 1b** is a diagram of flows and states in an automated trading system.

[0014] **FIG. 2** is a display from an automated trading system.

[0015] **FIG. 3** is another display from an automated trading system.

[0016] **FIG. 4** is another display from an automated trading system.

[0017] **FIG. 5** is another display from an automated trading system.

CLAIMS

1. An apparatus of an electronic market, the apparatus configured for facilitating an electronic trading network including remote trader devices, a remote clearinghouse and first and second remote exchanges, the apparatus comprising:

a computing device;

a non-transitory medium having stored there on a plurality of instructions that, when executed by the computing device, cause the electronic market to:

receive, over a communication network from the remote trader devices of each of a plurality of parties, orders to buy and sell a listed bond futures contract;

in response to receiving the orders, cause to execute trades of the bond future contract to establish and sell positions in the bond futures contract;

in response to the end of a first trading day, determine, based on the executed trades, a respective net trading position in the bond futures contract by reducing a gross trading position in the bond future contract with offsetting trades in the bond futures contract;

in response to the end of a first trading day, for each of the net trading positions in the bond future contract, determine a respective bond and a respective first price for the bond based on a respective second price of the bond future contract;

in response to the end of a first trading day, for each of the net trading positions in the bond future contract and based on the respective first and second prices, enter orders on behalf of the plurality of parties, over the communication network, with the remote clearinghouse to transfer a first net position in the bond future contract into a second corresponding position in the respective bonds;

automatically in response to determining, based on best bid price information or best offer price information on the first remote exchange, that a resting order to buy or sell a bond futures contract on the first remote exchange satisfies an order routing preference, control trading of the resting order on the first remote exchange and routing an order to transfer a net position of the traded resting order into a position in a bond corresponding to the traded resting order from the first remote exchange to the second remote exchange such that the resting order is on the first remote exchange at least a predetermined number of milliseconds once the order routing preference is determined to be satisfied, in which the second remote exchange is preferentially selected based on a length of a routing time for routing the order to transfer the net position of the traded resting order over the communication network from the first remote exchange to the second remote exchange;

in response to the beginning of a second trading day, in which the second trading day is the soonest trading day that is after the first trading day, for each of the positions in the bonds, determine a respective third price of the bond and a respective fourth price of the bond future contract; and

in response to the beginning of the second trading day and based on the respective third and fourth prices, for each of the positions in the bonds, enter orders on behalf of the plurality of the plurality of parties, over the communication network, with the remote clearinghouse to transfer the second corresponding position in the bonds back into the first position in the bond future contract.

2. The apparatus of claim 1, in which entering orders on behalf of the plurality of parties, over the communication network, with the remote clearinghouse to transfer the first net position in the bond future contract into the second corresponding position in the respective bonds comprises:

entering, over the communication network, with the clearinghouse, a trade for the bonds for T+N settlement (trade date plus N days), in which N is an integer greater than '1'; and

closing the first position in the bond future contract.

3. The apparatus of claim 1, in which entering orders on behalf of the plurality of parties, over the communication network, with the remote clearinghouse to transfer the second corresponding position in the bonds back into the net first position in the bond future contract comprises:

entering, over the communication network, with the clearinghouse, a trade for the bonds for T+N settlement (trade date plus N days), in which N is an integer greater than '0'; and

opening the first position in the bond future contract.

4. The apparatus of claim 1, in which entering orders on behalf of the plurality of parties, over the communication network, with the remote clearinghouse to transfer the first net position in the bond future contract into the second corresponding position in the respective bonds comprises:

entering, over the communication network, with the clearinghouse, a trade for the bonds for T+N+1 settlement (trade date plus N+1 days); and

in which transferring entering orders on behalf of the plurality of parties, over the communication network, with the remote clearinghouse to transfer the second corresponding position in the bonds back into the net first position in the bond future contract comprises

entering, over the communication network, with the clearinghouse, a trade for the bonds for T+N settlement,

in which N is an integer greater than ‘0’.

5. The apparatus of claim 1, in which determining a respective bond for each of the net positions in the bond future contracts, comprises:

receiving, over the communication network, from a party to the bond future contract, a selection of a bond to be the respective bond.

6. The apparatus of claim 1, in which the instructions cause the electronic market to:

determine that the bonds and bonds futures contract are economically equivalent by:

for the first position in bond futures contract, determining a DV01 (DV01 of an instrument being the change in value of the instrument per one basis point change in yield of the instrument) of at least one bond that is a basis of the bond futures contract; and

determine the bond based on the bond having a DV01 equal to the determined DV01.