

4. PIT (FLOOR) MARKETS

4.1 Continuous security markets

Trading occurs during intervals (typically several hours long) sometimes called trading sessions.

It is not confined to a small number of pre-set times (like once- or twice-a-day batching).

Within a session, anyone can initiate a trade at any time; trades can occur at any time.

Why do we need to trade continuously?

Mechanisms for continuous trade

▶ Floor market

Traders get together in one location and strike bilateral deals.

▶ Dealer market

A decentralized network of traders who have established and maintain reputations for making a market in response to customer requests

▶ Electronic limit order book

Traders post bid and offers into a computer; these are seen by all other traders.

Most markets rely primarily on one of these three mechanisms. Very few markets use one and only one of these mechanisms.

We will consider these in order.

For a pit market: we'll consider a specific example: the Chicago Mercantile Exchange ("CME", "Merc")

Although the pit is the primary mechanism, CME trading also utilizes an electronic limit order book ("Globex") and a dealer market for large trades.

4.2 Background

Futures contracts

A futures contract is an agreement to buy/sell a pre-specified quantity of the underlying at some pre-specified time in the future (maturity) for a price that is set at the time of the trade.

The CME March 2005 frozen pork belly contract calls for delivery of 40,000 lbs. of frozen pork between March 7, 2005 and March 31, 2005.

If I “go long”/“buy” the contract at a price of \$0.8580, I’m agreeing to take delivery of the pork and pay $40,000 \times \$0.8580 = \$34,320$.

The counterparty “sold” / “shorted” / “went short” the pork and is agreeing to make delivery

At the time the “trade” occurs, no money changes hands; both sides post a small amount of money with the exchange (margin) to ensure performance.

Most contracts are not held to maturity; the original trade is reversed.

If, after the trade, I subsequently sell the contract at a price of \$0.9000, I make a profit of $40,000 (\$0.9000 - \$0.8580) = \$1,680$.

What gets traded?

The CME also trades cattle, milk, butter, lumber, foreign exchange, etc.

Chicago Board of Trade (CBT): Wheat, corn, soybeans, US Gov’t bond contract.

New York Mercantile Exchange (NYMEX): metals, petroleum, electricity.

Regulation

US futures trading in the US is regulated by the Commodities Futures Trading Commission

All futures professionals must register with the CFTC.

All futures professionals dealing with the public must be members of the National Futures Association

The NFA administers exams that qualify individuals to act as brokers, supervisors, etc.

The individual futures exchanges also regulate their members.

The individual futures exchanges

Traditionally, they were organized as member-owned nonprofit corporations.

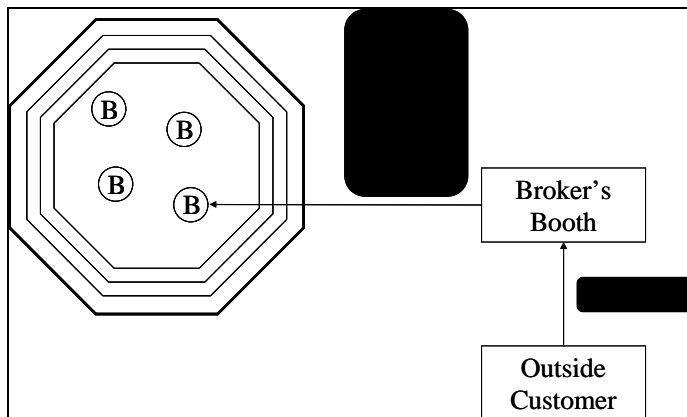
The CME is now a publicly-traded for-profit corporation.

A membership is a “seat”. Seats can be purchased or leased.

Exchanges determine and enforce rules of trading procedure

Exchanges design and set the terms of their own contracts.

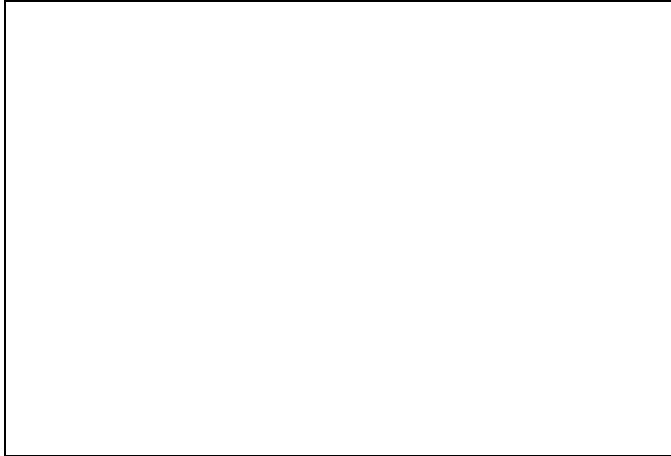
4.3 Physical layout



After you give your broker your order, it is transmitted to the CME® floor [your broker's booth, located on the periphery of the floor] via telephone or data transmission lines.

Upon receipt, the order is time-stamped and either "flashed" to the broker or delivered to the trading area, or pit, by an order clerk or runner.

An individual floor broker is responsible for executing your order.



(The material in this section is from www.cme.com
→ education → getting started → basics of trading
→ trading process)

4.4 Trading practices in the pit

The following excerpts are from the CME Rule Book

Many of these rules were in place before the advent of government regulation.

Rule 520: TRADING CONFINED TO EXCHANGE FACILITIES

All trading ... must be confined to transactions made on the Exchange; and ... must be confined to the designated trading area during Regular Trading Hours ... Any member violating this rule shall be guilty of a major offense.

Rule 521: PIT TRADING

All transactions... shall be by open outcry in the established pit for that transaction.

A bid shall be made only when it is the best bid available in the pit. A bid is made by stating the price first and quantity next (such as "38.50 on 2," etc.)...

An offer shall be made only when it is the best available offer in the pit. An offer is made by stating quantity first and price next (such as "2 at 38.50")

It shall be improper to make a bid or an offer without indicating a quantity.

When a trader desires to buy the going offer in the pit, he shall by outcry state "buy it" or "buy them" or "buy" followed by the quantity desired, as the case may be. When selling, the trader shall similarly, by outcry, state "sell it" or "sell them" or "sell" followed by the quantity desired.

Rule 523: ACCEPTANCE OF OFFERS AND BIDS DURING REGULAR TRADING HOURS

Any offer or bid may be withdrawn at any time before acceptance, but while outstanding, all or any part of any offer or bid is subject to immediate acceptance by any trader

Rule 514: TRADING INFRACTIONS

[Discussed out of sequence]

1. a bid or offer out of line with the market;
2. a bid or offer which tends to confuse the other traders;
3. a price infraction ["A sale, quotation or outcry which is out of line with existing bids or offers."]
4. failure to confirm a transaction;
5. failure of buyer and seller to announce a change in the last sale price and failure to ascertain that it is properly recorded;
- ... use of profane language, etc. ...
11. failure to indicate a quantity on a bid or offer.
12. disseminating false, misleading or inaccurate quotes

Rule 526: BLOCK TRANSACTIONS

[A block transaction is a trade that is unusually large. Under certain circumstances and with certain safeguards, these trades may be conducted by members off-floor.

I'll discuss this rule later.]

**Rule 528: CHANGE IN LAST SALE PRICE
[48]**

The buyer and seller in a pit transaction must report immediately to the pit observer any change in the last sales price or last quotation and it shall be their duty to make certain that such change in quotation is properly posted.

In order to effectuate such a price change, at least three qualified traders shall be present in the pit.

Whenever a member makes a trade with another member which constitutes a price infraction, he or she shall 1) immediately break the trade; or 2) satisfy all bids or offers which were adversely affected; or 3) adjust the price of the trade to the price which existed when the price infraction occurred. For this third alternative, both sides must agree to the adjusted price, which must satisfy the terms of any order(s) involved in the trade.

Frequent participation in trades that involve price infractions may constitute a major offense.

**Safeguards for customers represented by
brokers**

The following rules reflect the fact that not all buyers and sellers will be representing themselves. Some will be brokers – acting as agents for customers who are off the floor and can't directly monitor the trading process.

**Rule 530: PRIORITY OF CUSTOMERS'
ORDERS**

During [r]egular [t]rading [h]ours a member shall not buy a futures contract... for his own account or for an account in which he has a proprietary interest, when he has in hand orders to buy ... for others at the market or at the same price.

A member shall not sell ...for his own account or for an account in which he has a proprietary interest, when he has in hand orders to sell ... for others at the market or at the same price.

Rule 531: TRADING AGAINST CUSTOMERS' ORDERS PROHIBITED

A member having in hand a customer order shall not knowingly enter into a transaction on behalf of that customer in which: (i) the member; (ii) an entity of which the member is a partner or officer; (iii) or any officer or partner of an entity of which the member is an officer or partner; or (iv) any person trading for an account in which the member has a financial interest, assumes the opposite side.

Rule 532: DISCLOSING ORDERS PROHIBITED

A member ... shall not disclose another person's order to buy or sell ... Violation of this rule shall be a major offense

Rule 533: SIMULTANEOUS BUYING AND SELLING ORDERS FOR DIFFERENT PRINCIPALS EXECUTED BY ONE TRADER

A member of the Exchange, who shall have in hand at the same time both buying and selling orders from different customers for the same commodity and delivery month ... may execute such orders for and directly between such principals pursuant to Rule 556 or provided:

In pit trading, a member executing such orders shall first bid and offer openly and competitively by open outcry at the same price, stating number of contracts, and if neither the bid nor the offer is accepted within a reasonable time, the orders may then be matched ...

Rule 534: SIMULTANEOUS BUYING AND SELLING ORDERS FOR THE SAME PRINCIPALS PROHIBITED [56]

No member ... shall accept a "simultaneous buying and selling" order from a customer for the same contract delivery month of the same commodity ... Violation of this rule shall constitute a major offense.

5. DEALER MARKETS

5.1 Introduction

Along with floor-based and electronic-limit-book mechanisms, a dealer market is one way to organized continuous trading.

A dealer market is sometimes called an “over the counter” market.

Dealers are intermediaries who take the other side of customer trades.

In terms of dollar volume, the largest financial markets are dealer markets.

Examples

- ▶ Bonds
- ▶ Currency (“FX”)
- ▶ Swaps
- ▶ Trading of equity blocks and portfolios
- ▶ Over-the-counter derivatives.
- ▶ Historically, Nasdaq, the US over-the-counter market for equities was considered a dealer market.

It is now a hybrid that is more similar to the NYSE

5.2 What defines a dealer?

A *broker* acts as an agent for a customer, representing customer orders in the market (e.g., a real estate broker)

A *dealer* takes the other side of customer trades (e.g., a used-car dealer).

Much of US securities regulation applies to both brokers and dealers. The US Securities and Exchange Commission (SEC) refers to such people as “broker-dealers”. In fact, broker and dealer functions are quite distinct.

General features of a dealer market

- ▶ Multiple dealers, geographically dispersed, electronically linked.
- ▶ No consolidation of trading: No “floor” (real or virtual).
- ▶ Virtually all customer trades are with a dealer.
The dealer is the intermediary.
Customers rarely trade against other customers.
- ▶ Dealers trade among themselves in an “interdealer market”
- ▶ Regulation and transparency are poor relative to floor markets.
- ▶ Dealers may compete among themselves, but have a lot of information and market power relative to customers.

5.3 The (secondary) market for US Treasury bonds Dupont and Sack (1999)**Securities traded**

Bills, bonds and notes, STRIPs

There are a large number of issues outstanding, but trading is concentrated in the “on-the-run” securities.

The on-the-run issue is the most recently issued within a broad maturity class (5-yr notes, 10-yr bonds, etc.)

Recall: the primary market is the auction conducted by the Federal Reserve Bank of New York.

US securities are traded before they are actually issued on a “when issued” basis.

Secondary market

Multiple dealers concentrated in Tokyo, London, New York.

24-hour trading; most activity during NY business hours

Regulated by US Treasury (not the SEC).

The flow of a deal

▶ Historically

A customer (pension fund, insurance company, etc.) would phone the multiple dealers who are “making a market” (providing bids and asks, standing ready to buy or sell, providing liquidity).

Customer trades against the best bid or ask.

▶ Currently

A dealer typically has an electronic system that provides the dealer’s bid and ask.

Customers can execute an order electronically against the posted prices.

Note:

The customer cannot post a limit order (his/her own bid or offer)

The dealer is counterparty to all executions.

Trades are usually not reported.

Interdealer trade

When a dealer accommodates a large customer order, the dealer will typically want to lay off the position.

“I’ve just sold my customer \$100 million in February 2031 bonds. Where can I get them?”
or

“I’ve just bought bonds from my customer.
Where can I sell them?”

A large long or short position is risky. If interest rates jump suddenly, the dealer might have a large loss.

To lay off positions, dealers trade with other dealers.

Most dealer markets have some sort of facility for trading among dealers that is not accessible by customers.

Although there are electronic trade execution linkages between dealers and customers and among dealers, there are no virtually no direct electronic

trade execution linkages between the customers and the interdealer market.

Interdealer Brokers (IDBs)

IDBs are intermediaries who negotiate trades between dealers.

Key function: IDB's provide anonymity

If Merrill needs to lay off a position, it can't call Goldman directly.

Firms: eSpeed (Cantor Fitzgerald), Garban-Intercapital, Liberty, BrokerTec, etc.

With the exception of eSpeed, the IDBs participate in GovPX.

GovPX is an electronic system that:

- Disseminates bids and asks in the IDB market.

- Allows dealers to execute trades against posted bids and asks.

Customers can't access GovPX to execute a trade, but they can see the bids, asks and last sale price that occurred on GovPX.

If Merrill buys using GovPX, anyone with a GovPX screen will know the price.

If Merrill buys from a customer, only Merrill and the customer know about the trade. There is no "tape".

A GovPX customer screen

Note about "screens". The screen used to be the distinctive visual manifestation of a market, and would look essentially the same no matter who was accessing it.

This is still true of GovPX, but most electronic markets have developed application program interfaces (API's), that allow customized access.

Sometimes, when the trading function can be completely automated, there is no "screen" at all, at least in the usual sense.

Notes

The bid and ask are the best (“inside”, “best bid and offer”, BBO) of the participating IDB’s.

For bills (maturity one year or less), the bid and ask are yields. The bid yield is higher (and the implied price is lower) than the ask.

For notes and bonds, the bid and ask are prices (% of par).

The markets for the 10 and 30 year bonds are one-sided. There is an offer, but no bid. (“Offer without”)

This does not mean that no dealer would be willing to buy the bond, only that you’d have to contact them directly to negotiate a price.

Last trade.

Remember: a customer can’t execute a trade on this system.

Work-up facility (a bargaining component)

See Boni and Leach (2004)

US T-bond market: a summary

▶ Strengths

Dealers can provide liquidity (stand ready to buy and sell) when there are no customer counterparties in the market.

To keep customers coming back, a dealer must establish and maintain a reputation for making a good market.

▶ Weaknesses

The dealer trades against the customer, and has an incentive to give the customer a bad price.

Most dealer markets have poor transparency.

The customers don't have good price information.

Customers can't post their own bids and asks.

Limit orders are handled poorly (if they're accepted at all)

▶ The dealer's reputation rests on his / her willingness to answer the phone and provide firm quotes (make a market) whenever requested by a customer.

If the dealer ever says "I'm up to here in the February 2013's. I just can't buy any more," the customer will walk, taking future business.

In this situation, a dealer might set a wide bid and ask / only agree to buy a small quantity.

"I'm really doing you a favor here, because the market for this issue has dried up completely."

For a good customer, the dealer will provide more aggressive quotes, larger sizes.

Historical background

▶ GovPX was forced on the dealers by the Treasury Department circa 1990.

Treasury wanted to enhance transparency as a matter of public policy.

- ▶ There is general sentiment that

Prior to GovPX, US Gov't bond trading desks were very profitable.

Once customers could see the GovPX bids and offers (even though they couldn't trade against them), the business became marginal.

5.4 The market for municipal and corporate bonds

Regulated by the US SEC, but:

The political power of the bond dealers is large.

The SEC has been less forceful in bond markets than in equity markets.

The number of securities is huge. The Bond Market Association estimates there about 1.5 million issues of municipal bonds alone

There is great diversity of features (call provisions, put provisions, sinking funds, etc.)

A small number of corporate bonds trade on the NY and American (stock) Exchanges; the remainder trade in a dealer market

No well-developed interdealer market.

Liquidity is generally poor.

5.5 The foreign exchange (FX) market

FX is traded spot (for immediate delivery) and forward.

Dealers are major money center banks in Tokyo, London, New York.

The market is not regulated directly, but there is an FX working group that meets under the auspices of the NY Federal Reserve Bank. This group establishes standards for trading practices.

Customers

Firms that need FX for transaction purposes.

But the volume of FX trade is far in excess of what can be explained by the level of trade in goods and services.

Investors/hedgers/speculators

Prices

The bid and ask quotes you'd see on a Bloomberg screen are collected by Reuters from the FX desks at major banks.

They are indicative quotes; you can't trade against them (they aren't firm).

Most dealers have screens that allow their customers to execute trades against the bank's quotes.

Trades are not generally reported.

The interdealer FX market

Voice brokers (like T-bonds)

Formerly very important. Now squeezed out by electronic systems.

Reuters D2000-1 system (and successors)

Essentially a secure messaging system for negotiating bilateral trades.

A Citibank FX dealer might send a message to a NatWest dealer requesting quotes.

Not anonymous

EBS ("Electronic Brokerage Systems)

An anonymous electronic limit order book

5.6 The dealer aspect of the CME

5.7 Dealer markets: a summary

5.8 Problems

6. REFERENCES

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