Futures Markets and Central Counterparties

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Examples of Large Futures Exchanges are
- CME Group
- Intercontinental Exchange
- Eurex
- B3 Brazil
- National Stock Exchange of India
- China Financial Futures Exchange
- Tokyo Financial Exchange

SPECIFICATIONS OF A FUTURES CONTRACT
- Asset
- Contract Size
- Where delivery can be made
- When delivery can be made

When the party with a short position ready to deliver, it files a **notice of intention to deliver** with the exchange

Exchanges have their own methods to standardize the future contracts.

if contract size is too large, many traders who wish to hedge relatively small exposures or who wish to take small speculative positions will be unable to use the exchange. On the other hand if the contract size too small, trading may be expensive as there is a cost associated with each contract traded.

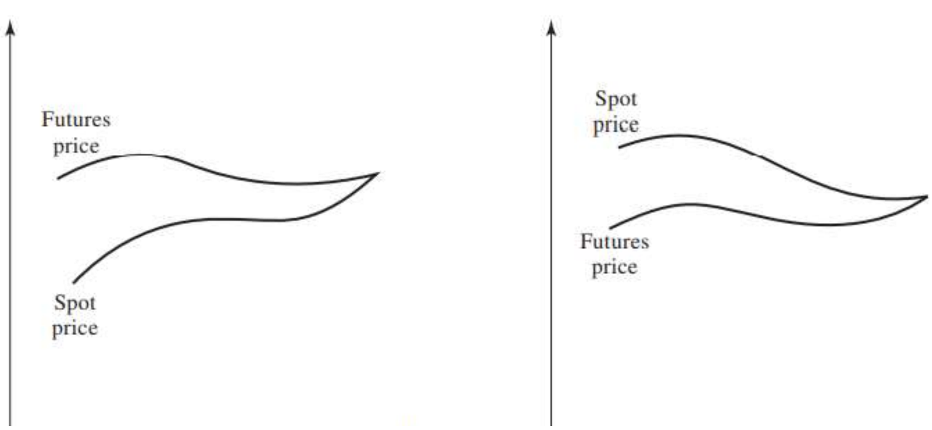
Change in price < daily price limit … Limit Down
Change in price > daily price limit ---Limit Up
Change in price == daily price limit --- Limit equal

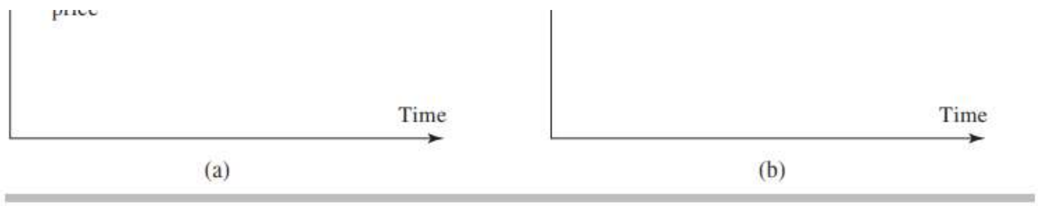
The purpose of daily price limits is to precent large price movements from occurring because of speculative excesses. Limits are artificial barrier to trading price of the underlying commodity is advancing or declining rapidly.

Position Limits are the maximum number of contracts that a speculator may hold.

CONVERGENCE OF FUTUTRES PRICE TO SPOT PRICE
As the delivery period for a futures contract is approached, the futures price converges to the spot price of the underlying asset.

Figure 2.1 Relationship between futures price and spot price as the delivery period is approached: (a) Futures price above spot price; (b) futures price below spot price.





THE OPERATION OF MARGIN ACCOUNTS

Key role of the exchange is to organize trading so that contract defaults are avoided/

Daily Settlement
The amount that must be deposited at the time the contract is entered into is known as the initial margin.
At the EOD, the margin account is adjusted to reflect the trader's gain or loss - Daily Settlement

The profit and loss made by a contract is adjusted daily

The daily flow of funds between traders to reflect gains and losses is known as variation margin

The maintenance margin represents the amount of equity the investor must maintain in the margin account after the purchase has been made to Keep the position open.

If balance < maintenance margin:
    Margin call
    Top _up the balance to initial margin
    Within short time
Else:
    The position closes
    Sell the contract

Treasury bills are usually accepted in lieu of cash at about 90% of their market value. Shares are also sometimes accepted in lieu of cash, but at about 50% of their market value

Whereas a forward contract is settled at the end of its life, a futures contract is, as we have seen, settled daily. At the end of each day, the trader’s gain (loss) is added to (subtracted from) the margin account, bringing the value of the contract back to zero. A futures contract is in effect closed out and rewritten at a new price each day.

Maintenance Margin = 0.75*Initial Margin

High variability -> High minimum margin

The Clearing House and Its Members

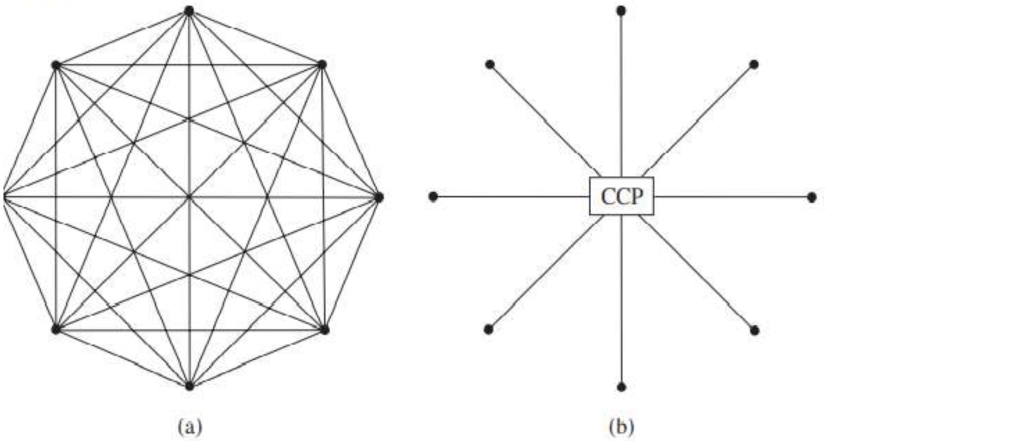
At the end of each day, the transactions being handled by the clearing house member are settled through the clearing house. If in total the transactions have lost money, the member is required to provide variation margin to the exchange clearing house equal to the loss; if there has been a gain on the transactions, the member receives variation margin from the clearing house equal to the gain.

OTC MARKETS
CCPs are clearing houses for standard OTC transactions that perform much the same role as exchange clearing houses. Members of the CCP, similarly to members of an exchange clearing houses, have to provide both initial margin and daily variations

Bilateral Clearing
This agreement usually includes an annex, referred to as the credit support annex or CSA, requiring both or A or B, to provide collateral.

New regulations starting from 2016 requires both initial margin and variation margin for bilaterally cleared transactions.

Figure 2.2 (a) The traditional way in which OTC markets have operated: a series of bilateral agreements between market participants; (b) how OTC markets would operate with a single central counterparty (CCP) acting as a clearing house.



Transactions Settled through CCPs earn interest because it is not settled daily.

The market value of the securities is reduced by a certain amount to determine their value for margin purposes. This reduction is called haircut.

MARKET QUOTES

The settlement price is the price used for calculating daily gains and losses and margin requirements.

	Open	High	Low	Prior settlement	Last trade	Change	Volume
Gold 100 oz, $ per oz							
June 2020	1751.7	1751.7	1715.3	1752.1	1725.5	−26.6	223,200
Aug. 2020	1765.3	1765.3	1731.2	1765.6	1740.7	−24.9	54,503
Oct. 2020	1768.0	1768.8	1739.0	1774.0	1747.4	−26.6	2,559
Dec. 2020	1778.8	1779.8	1743.8	1781.7	1752.7	−29.0	5,280
Dec. 2021	1779.0	1779.0	1755.1	1790.7	1757.2	−33.5	345

A futures market where prices increase with maturity is known as a normal market. A futures market where futures prices decrease with maturity is known as an inverted market.

DELIVERY
Notice of Intention to deliver
Some notices are transferrable, traders with long positions usually have a short period of time to find another party with a long position that is prepared to take delivery in place of them.

TYPES OF TRADERS AND TYPES OF ORDERS

Two types of traders
- Futures commission merchants (FCM)
- Locals (Hedgers, speculators or arbitrageurs)

Scalpers are watching for very short-term trends and attempt to profit from small changes in the contract price. They usually hold their positions for only a few minutes.

Day traders hold their positions for less than one trading day. They are unwilling to take the risk that adverse news will occur overnight.

Position traders hold their positions for much longer periods of time. They hope to make significant profits from major movements in the markets.

Types of Orders

- Market Orders - It is a request that a trade be carried out immediately at the best price available in the market.
- Limit Order The order can be executed only at this price or at one more favorable to the trader.
- Stop Order or Stop Loss Order The order is executed at the best available price once a bid or ask is made at that particular price or a less-favorable price
- Stop limit order is the combination of the above two
- Market-if-touched order

What is a MIT Order?

This unique order type is similar in concept to a limit order, which is only executed when market price satisfies a user defined limit price.

A MIT order however will execute a market order once a defined price level is met and the order will be filled at the current best bid/ask price. The principle difference between a limit and MIT order is:

- Limit orders will only fill at the user defined price or better
- MIT orders will fill at **any price** after the market reaches the pre-defined level

MIT Order Example

- Discretionary order or market-not-held order is traded as a market order except that execution may be delayed at the broker's discretion in an attempt to get a better price.
- Time of day order
- Open Order or Good-till-canceled order
- Fill or kill order

REGULATION
Commodity Futures Trading Commission CFTC
National Futures Association
Dodd-Frank Act CFTC is now responsible for rules requiring that standard over-the-counter derivatives between financial institutions be traded on swap execution facilities and cleared through central counterparties.

Trading Irregularities
Corner the market irregularities

FORWARD vs FUTURES CONTRACTS

Table 2.3 Comparison of forward and futures contracts.

Forward	*Futures*
Private contract between two parties	Traded on an exchange
Not standardized	Standardized contract
Usually one specified delivery date	Range of delivery dates
Settled at end of contract	Settled daily
Delivery or final cash settlement usually takes place	Contract is usually closed out prior to maturity
Some credit risk	Virtually no credit risk