

Mechanics of Futures Markets

Chapter 2

Futures Contracts

- Available on a wide range of underlyings
- Exchange traded
- Specifications need to be defined:
 - What can be delivered,
 - Where it can be delivered, &
 - When it can be delivered
- Settled daily

Margins

- A margin is cash or marketable securities deposited by an investor with his or her broker
- The balance in the margin account is adjusted to reflect daily settlement
- Margins minimize the possibility of a loss through a default on a contract

Example of a Futures Trade

- An investor takes a long position in 2 December gold futures contracts on June 5
 - contract size is 100 oz.
 - futures price is US\$900
 - margin requirement is US\$2,000/contract (US\$4,000 in total)
 - maintenance margin is US\$1,500/contract (US\$3,000 in total)

A Possible Outcome

Table 2.1, Page 27

Day	Futures Price (US\$)	Daily Gain (Loss) (US\$)	Cumulative Gain (Loss) (US\$)	Account Balance (US\$)	Margin Call (US\$)
	900.00			4,000	
5-Jun	897.00	(600)	(600)	3,400	0
⋮	⋮	⋮	⋮	⋮	⋮
13-Jun	893.30	(420)	(1,340)	2,660	+ 1,340 = 4,000
⋮	⋮	⋮	⋮	⋮	⋮
19-Jun	887.00	(1,140)	(2,600)	2,740	+ 1,260 = 4,000
⋮	⋮	⋮	⋮	⋮	⋮
26-Jun	892.30	260	(1,540)	5,060	0

Other Key Points About Futures

- They are settled daily
- Closing out a futures position involves entering into an offsetting trade
- Most contracts are closed out before maturity

Collateralization in OTC Markets

- It is becoming increasingly common for contracts to be collateralized in OTC markets
- Counterparties then post margin with each other to reflect changes in the value of the contract
- Regulators are now insisting that clearinghouses (similar to those used for futures) be used for some OTC contracts

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Delivery

- If a futures contract is not closed out before maturity, it is usually settled by delivering the assets underlying the contract. When there are alternatives about what is delivered, where it is delivered, and when it is delivered, the party with the short position chooses.
- A few contracts (for example, those on stock indices and Eurodollars) are settled in cash
- When there is cash settlement contracts are traded until a predetermined time. All are then declared to be closed out.

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Some Terminology

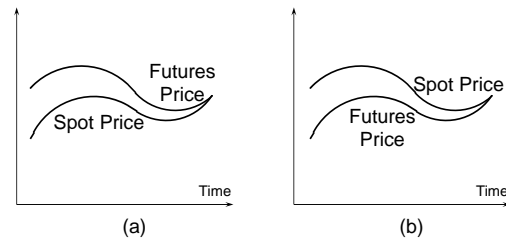
- Open interest: the total number of contracts outstanding. This equals to number of long positions or number of short positions
- Settlement price: the price just before the final bell each day. This is used for the daily settlement process
- Volume of trading: the number of trades in 1 day

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Convergence of Futures to Spot

(Figure 2.1, page 25)



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Questions

- When a new trade is completed what are the possible effects on the open interest?
- Can the volume of trading in a day be greater than the open interest?

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Futures for Crude Oil on Aug 4, 2009



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Futures for Soybeans on Aug 4, 2009



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Futures for Lean Hogs on Aug 4, 2009



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Regulation of Futures

- Regulation is designed to protect the public interest
- Regulators try to prevent questionable trading practices by either individuals on the floor of the exchange or outside groups

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Accounting & Tax

- It is logical to recognize hedging profits (losses) at the same time as the losses (profits) on the item being hedged
- It is logical to recognize profits and losses from speculation as they are incurred
- Roughly speaking, this is what the accounting and tax treatment of futures in the U.S. and many other countries attempts to achieve

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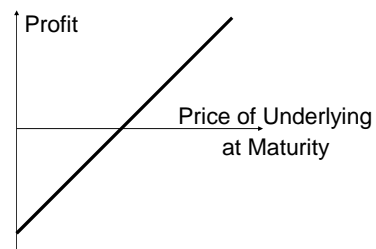
Forward Contracts

- A forward contract is an OTC agreement to buy or sell an asset at a certain time in the future for a certain price
- There is no daily settlement (but collateral may have to be posted). At the end of the life of the contract one party buys the asset for the agreed price from the other party

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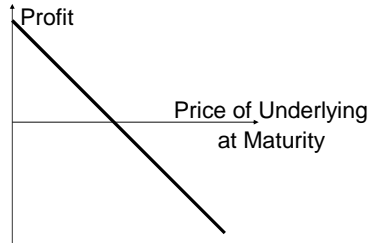
Profit from a Long Forward or Futures Position



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Profit from a Short Forward or Futures Position



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Forward Contracts vs Futures Contracts (Table 2.3, page 40)



<i>Forward</i>	<i>Futures</i>
Private contract between two parties	Traded on an exchange
Not standardized	Standardized
Usually one specified delivery date	Range of delivery dates
Settled at end of contract	Settled daily
Delivery or final settlement usual	Usually closed out prior to maturity
Some credit risk	Virtually no credit risk

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Foreign Exchange Quotes



- Futures exchange rates are quoted as the number of USD per unit of the foreign currency
- Forward exchange rates are quoted in the same way as spot exchange rates. This means that GBP, EUR, AUD, and NZD are USD per unit of foreign currency. Other currencies (e.g., CAD and JPY) are quoted as units of the foreign currency per USD.

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