Chapter 2

Mechanics of Futures Markets

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Definition 2.1

A futures contract involves an underlying and a specified delivery time. In addition to the stock prices S_i, the market dictates futures prices F_i, which are random variables. While a long forward contract involves just a single cash flow S_T-K at delivery time T, a futures contract involves a random cash flow F_i-F_{i-1}, known as marking to market:

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Definition 2.1 (continued)

Each investor entering a futures contract has to pay a deposit, the initial margin. In a long futures position, F_i-F_{i-1} is added to the deposit at time i. Any excess above the initial margin may be withdrawn by the investor. However, if deposit drops below the maintenance margin, the clearing house will issue a margin call, requesting the investor to restore the deposit to the level of the initial margin. If the investor fails to respond to a margin call, the clearing house will close the futures position. It costs nothing to enter, close, or alter a futures contract.

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Example 2.2

Assume initial margin and maintenance margin are 10% and 5%, respectively, of the futures price, in a long futures position.

i	F_i	cash flow	Deposit at beginning of Day i	Payment into account	Deposit at end of Day i
0	140				
1	138				
2	130				
3	140				
4	150				

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Remark 2.3

Comparison of forward and futures contracts

Forwards	Futures
Over-the-counter market	Exchange-traded market
Not standardized	Standardized contract
Settled at end of contract	Settled daily
Delivery takes always place	Contract is usually closed out prior to maturity
Some credit risk	Virtually no credit risk

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