

buy–sell or sell–buy transactions are completed (after a “round turn” has been completed). A round turn is a buy and later sale, or a sale and later buy, which eliminates any position or obligation in the markets. Buying 10 live cattle futures contracts on October 1 and selling 10 live cattle futures contracts on December 1 would complete a round turn, for example. The trader will now have no obligation in the futures market and commissions will be charged by the brokerage firm that handled the business. Some brokerage firms, you will find, “split” their commission charges on options. They charge part of the fee when the position is established, the rest when the position is closed out.

It is also after the round turn is completed that a profit or loss⁵ will be added to, or subtracted from, the beginning account balance. You are encouraged to pause at this point and think about how selling at \$3.10 and buying back at \$2.85 can generate a profit. Also, think about how completion of a round turn eliminates any position in the markets.

Keep it simple for now. Selling futures means you have incurred an obligation to deliver a commodity on or by a later date. But the futures market is not intended to be a market that completes physical delivery. You will almost always want to offset the obligation to deliver by buying back an equal number of futures contracts before they mature. You will find this meets your objective of transferring the risk of price fluctuations to someone else and you can do it all with “paper” transactions. That is what the futures market is supposed to do.

Later chapters will address how to place an order with the broker, which type of order to use in a particular instance, and related detail. At this point, *it is sufficient for you to just understand that trade occurs via an open outcry and competitive auction process*. Since the prices that evolve from the auction process are so widely watched and widely used, it is useful to pause for a moment to reflect on how important it is that the futures market discover prices that accurately reflect the underlying supply–demand relationships.

Orders to buy or sell are filled on the floor of the futures exchanges by an open outcry and competitive auction process. The trader is represented by a broker whose job is to seek “fills” of the trader’s orders. The resulting prices are highly visible and are widely used by decision makers as price expectations. You can avoid price risk in the cash market by buying and selling futures contracts in this related but separate market.

The Accounting Process

To be allowed to trade futures contracts, the trader must complete necessary forms supplied by the brokerage firm and deposit required “margin money.” The forms essentially transfer the risk of, and responsibility for, any losses from the brokerage firm to the trader and are standard in format and content. The concept of margin money requires more explanation.

⁵A profit is earned if, for example, corn futures are bought at \$3.10 and sold at \$3.20. Conversely, a loss would be incurred if the futures were bought at \$3.10, the market does not go up, and they later have to be sold at \$2.85. Similarly, selling initially at \$3.10 and buying back later at \$2.85 would earn a profit. There will be profits in the futures trades if you can meet the old adage of “buy low and sell high,” or “sell high and buy low.”

There are two types of margin requirements. First, the *initial margin* sets out the minimum monies traders must have on deposit with their broker to trade one futures contract. Among characteristics of the initial margin requirements are the following:

1. The minimum initial margin is set by the exchanges on which the particular contract is traded. For example, the Chicago Board of Trade (CBOT) offers a soybean futures contract of 5,000 bushels of soybeans of a specified quality. The CBOT sets the minimum initial margin requirement for the soybean contract.
2. Initial margins have historically been set at 5 percent or less of the face value of the contract. A 5,000-bushel soybean contract at \$8 per bushel has a value of \$40,000. Applying a 5 percent rule, initial margin requirements per contract would be expected to be around \$2,000. The margins can and do vary over time with a tendency for the CBOT or other exchange to raise the requirements when prices are volatile.
3. Brokerage firms can legally charge more than the minimum margin set by the exchange. They are not allowed to charge less if that particular exchange establishes minimum margin levels for a particular commodity.

The second type of margin is the *maintenance margin*. It specifies the minimum level at which the account must be maintained and becomes a threshold or trigger point to signal a “margin call” when the position the trader has established is losing money. The margin call requests additional money if the positions are to be kept in place. As a general rule of thumb, the maintenance margin requirement will be about two-thirds of the initial margin.

To illustrate the use of margins, let’s assume we have speculators who hear about drought damage to the nation’s corn crop and decide they want to trade corn futures. A broker is contacted, the necessary account forms are completed, and a speculator is told the margin requirements for a 5,000-bushel corn contract on the CBOT are \$1,200 initial and \$800 maintenance per contract.⁴ Our speculator puts in an order to buy December corn futures at \$3.50, and the order to buy at \$3.50 is filled on July 2.⁵

Table 1.1 provides a chronological record of what could happen if the expectation that corn prices will go higher turns out to be wrong in the short run. It uses a single 5,000-bushel futures contract to illustrate.

On July 5, the December corn futures are at \$3.40 at the close of trade—\$.10 per bushel (bu.) below the \$3.50 level at which the futures were bought. The trader has suffered an account loss of \$500 (5,000 times \$.10 per bu.). The account balance per contract is pulled down through the \$800 maintenance level ($\$1,200 - \$500 = \700) and a margin call of \$500 would be issued to cover the losses and restore the \$1,200 account balance. If the margin call is not answered and money is not sent to the broker within a prescribed time limit (three to four business days with many brokerage firms, but check with your broker), the trader’s position can be liquidated, and the trader will have to absorb any losses.

⁴Many brokerage firms will require a minimum account balance and/or a certain level of net worth before they will open an account. This discussion of margins assumes any such beginning requirements have already been satisfied. Such up-front requirements are designed to ensure the trader will be able to handle any losses that might be incurred and will vary significantly across brokerage firms. You should check around for the best deal.

⁵The July 2 date was picked for illustrative purposes. Any date could have been used between the time trade in December futures contracts is started (often as early as August of the previous year) and the maturity date of the December contract during the third week of December.

Date	Price (\$ per bu.)	Action	Margin Action	Balance (\$)
		Initial margin = \$1,200		
		Maintenance margin = \$800		
July 2	\$3.50	Buy December corn futures @ \$3.50.		\$1,200
July 3	3.46			1,000
July 4	Holiday			
July 5	3.40		\$500 call	1,200
July 6	3.33			850
July 9	3.28		\$600 call	1,200
July 10	3.31			1,350
July 11	3.38			1,700
July 12	3.40			1,800
July 13	3.47			2,150
July 16	3.56			2,600
July 17	3.66			3,100
July 18	3.70			3,300
July 19	3.71			3,350
July 20	3.75			3,550
Sept 21	\$3.90	Sell December corn futures @ \$3.90		\$4,300

TABLE 1.1

Accounting for Margins and Margin Calls for a Long Position in December Corn, 50,000-Bushel Contract

The chronological record in Table 1.1 shows increasing margin requirements as prices decline and, after the market reverses and prices move higher, an accumulation of surplus in the account that could be withdrawn by the trader.⁶ *You should spend some time regenerating the margin calls shown in the table.* It is important to understand, for example, why the price decline from \$3.40 to \$3.33 (July 5 to July 6) did not generate a margin call, but a margin call *is* subsequently generated by the \$3.28 price on July 9. The \$3.28 is \$.12 below the July 5 level of \$3.40 when the account balance was restored to \$1,200, and the \$.12 decline brings a \$600 dip in the account balance. The \$800 maintenance margin is penetrated ($\$1,200 - 600 = \600) again, and a margin call is issued for \$600 to bring the account balance back up to \$1,200.

The trader's account is updated daily using a "mark-to-market" approach. That is, the balance of the account is updated daily to reflect the market level in the form of the official settlement price for the futures contract for each day. If you check your newspaper, electronic market wire, or the *Wall Street Journal*, there is often a range of prices within which the market is trading at the close. The range is usually small, and the exchange has to pick a "settlement price" near the middle of that range for accounting and margin calculation purposes.

⁶Most brokerage firms will, if the trader prefers, transfer the surplus funds to an account earning money market rates. If the price levels subsequently decline and more margin funds are needed, the money can be transferred back to the commodity trading account to cover emerging margin needs. This eliminates the opportunity cost of funds being tied up with the brokerage firm and earning nothing when the trader does not have a position in the markets.

Note that traders do not pay the face value of the corn contract ($\$3.50 \times 5,000 = \$17,500$) when they buy the contract. What traders deposit is the required margin. At the end of the trade, when the contract is sold at $\$3.90$ on September 21, the round turn has been completed. The trader's account is then credited with the profit on the trade of $\$.40$ per bushel and debited for the broker's commission charge, usually around $\$75$ per contract for a round turn, or about $\$.015$ per bushel. It should be noted here that the discussion of margins applies only to trade directly in futures. Trade in the relatively new options on futures either has no margin requirement or somewhat different requirements, depending on whether the user is buying or selling. This issue will be detailed in Chapter 7 on options.

It is after the round turn is completed that commissions are charged and the trader's account is credited (debited) with the profit (loss) from the trade. Prior to the completion of the round turn, the only money transferred is the initial margin, any added margin money going to the brokerage firm, or any excess margin coming from the brokerage firm to the trader. The money sent to the broker to answer margin calls is used by the brokerage firm to meet its margin requirements at the exchange. Selling the futures on September 21 eliminates the commitment to accept delivery of the corn as a buyer of corn futures.

Margins and margin requirements are often confusing to the beginner. Just keep in mind that only margins are required to trade, but that you are responsible as a trader for any losses. That responsibility suggests margin calls will have to be answered to keep the position in futures in place if the market trend moves against the initial position. Keep this basic need in mind and just remember: for a hedger looking to avoid price risk, the interest cost on margin money is just a small business expense.

Months Traded and Why

Futures contracts are not traded for each month. Appendix 1B to this chapter shows the months for which futures are traded for several widely traded agricultural commodities and selected other futures. Before proceeding, it is important that you understand why the futures exchanges establish trade in specific months and usually tend to resist requests to extend trade to each month of the year.

Even before any detailed examination of exactly how trade in futures allows transfer of cash-price risk, it should be clear to you that the markets must offer a high level of liquidity. Cattle feeders seeking protection against price risk on a pen of cattle they have just bought or portfolio managers of banks seeking protection against rising interest rates must have confidence they can buy or sell the needed futures without delays. There must be some trader willing to take the other side of the transaction without a time delay and in a volume adequate to cover cattle feeders' and portfolio managers' needs. That is what is meant by the term "liquidity."⁷

⁷There are two measures of the level of activity in futures markets. One is *open interest*, the total number of contracts that have been bought and sold and are still in place. The second is *trading volume*, the number of contracts traded in a particular day. When open interest and trading volume are relatively high, the liquidity in the market is then typically adequate for effective trading by large and small traders, both hedgers and speculators. These concepts will be covered in more detail in later chapters.