Section I

Introduction to Futures and Options Markets

Chapter 5: Futures markets and commodities traded

Learning objectives

- To know major agricultural futures exchanges
- To see the types of commodities traded
- To understand common characteristics of futures traded commodities

Key terms

Commodity: A raw material or primary agricultural product that can be bought and sold, such as corn or silver. Commodities are homogenous products – buyers and sellers regard them as equal, regardless of who produced them. The same grade of corn has equal value, whether it was produced in Iowa, Indiana or Nebraska.

Major agricultural futures exchanges

The trading of futures contracts is conducted on organized commodity markets. There are a number of important agricultural futures markets in North America.

CBOT: Established in 1848, the Chicago Board of Trade is the oldest of all existing futures exchanges. Agricultural commodities traded include corn, soybeans, soybean oil and meal, and soft red winter wheat. The CBOT went public in 2005 and merged with the CME in July 2007.

CME: The Chicago Mercantile Exchange opened in 1898 as the Chicago Butter and Egg Board. It is home to live cattle, feeder cattle, lean hog futures and a complex of dairy products. The CME converted from a non-profit institution to a for profit institution in December 2002.

ICE Futures U.S.: In January of 2007, the IntercontinentalExchange acquired the New York Board of Trade and renamed it ICE Futures U.S. This exchange plays host to trading in "soft" commodities, including coffee, cocoa, sugar, cotton and orange juice.

KCBOT: The Kansas City Board of Trade was formally chartered in 1876 and trades hard red winter wheat futures and options. The KCBOT was purchased by the CME in December 2012.

MGEX: The Minneapolis Grain Exchange started in 1881 and is home to a successful hard red spring wheat contract.

ICE Futures Canada: Formerly known as the Winnipeg Commodity Exchange, this exchange features a successful canola contract.

This table shows the most actively traded agricultural futures contracts in North America.

Annual Futures Trading Volume, 2011

Selected U.S. and Canadian Agricultural Commodities

Commodity	Exchange	Contract Size	Year Started	Volume (contracts)
Corn	CBOT	5,000 bushels	1877	79,004,801
Soybeans	CBOT	5,000 bu.	1936	45,143,755
Sugar #11	ICE U.S.	112,000 lbs.	1914	24,704,245
Wheat	CBOT	5,000 bu.	1877	24,283,331
Soybean Oil	CBOT	60,000 lbs.	1950	24,156,509
Soybean Meal	CBOT	100 tons	1951	16,920,194
Live Cattle	CME	40,000 lbs.	1964	13,532,554
Lean Hogs	CME	40,000 lbs.	1966	9,969,961
Wheat	KCBOT	5,000 bu.	1876	6,342,782
Cotton	ICE U.S.	50,000 lbs.	1870	5,288,454
Coffee	ICE U.S.	37,500 lbs.	1964	5,174,538
Cocoa	ICE U.S.	10 tonnes	1925	4,948,052
Canola	ICE Canada	20 tonnes	1963	4,274,882
Wheat	MGEX	5,000 bu.	1883	1,732,331
Feeder Cattle	CME	50,000 lbs.	1971	1,580,387
Orange Juice	ICE U.S.	15,000 lbs.	1966	627,610
Class III Milk	CME	200,000 lbs.	1996	368,614
Oats	CBOT	5,000 bu.	1877	349,316

As we have seen, futures trading evolved from the growing cash markets for corn, oats and wheat in the 19th century. For the next century, futures markets and trading was limited to agricultural commodities.

The next table shows the most active agricultural futures contracts traded in other parts of the world. One note of caution when comparing the volume of trade; not all contracts are the same size. For example, the corn futures contract at the DCE in 10 tonnes (~400 bushels), while the CBOT corn contract is 5,000 bushels.

Agricultural Futures Worldwide, 2010

Selected Agricultural Commodities

Commodity	Exchange	Contract Size	Volume (contracts)
White Sugar	ZCE	10 tonnes	305,303,131
Rubber	SHFE	5 tons	167,414,912
Soy Meal	DCE	10 tonnes	125,581,888
Soy Oil	DCE	10 tonnes	91,406,238
Cotton No.1	DCE	5 tonnes	86,955,310
Palm Oil	DCE	10 tonnes	41,799,813
No.1 Soybean	DCE	10 tonnes	37,393,600
Corn	DCE	10 tonnes	35,999,573
Early Rice	ZCE	10 tonnes	26,854,086

ZCE: The Zhengzhou Commodity Exchange, established in 1990, is the first futures marketplace in China.
DCE: The Dalian Commodity Exchange, founded in 1993, is one of the four futures exchanges in China.
SHFE: Shanghai Futures Exchange. All of the trading on SHFE is executed electronically.

Organized commodity exchanges now exist across the globe. Some have converted to for profit status while some remain non-profit institutions. Among the functions performed by an exchange are providing a place to trade – a trading pit or an electronic trading platform (sometimes both). Exchanges establish and enforce rules and standards of conduct. They also collect and disseminate market information to the public.

Exchanges charge fees on every trade made in the market. These fees differ between exchanges, and between members and non-members. Large hedgers and speculators have an incentive to become members, as they enjoy lower exchange fees.

The real story in futures trading over the past 30 years has been the explosion of new futures markets and contracts for non-agricultural commodities. Today, futures markets have become the central pricing mechanisms for interest rates, currencies, stock indexes, metals, energy, and other industrial goods. The number of different contracts traded on exchanges throughout the world number in the hundreds.

Looking only at the CME Group, it is interesting to compare the corn contract (the largest volume agricultural contract) to large contracts in energy, interest rates and stock index futures.

Selected Futures Contracts at the CME Group, 2010

Ranked by Number of Contracts Traded and/or Cleared in 2010

Commodity	Exchange	Contract Size	Volume (contracts)
Corn	CBOT	5,000 bushels	79,004,801
WTI Crude Oil	NYMEX*	1,000 barrels	168,652,141
Henry Hub Natural Gas	NYMEX	10,000 mil. BTU	64,323,068
Eurodollar	CME	1,000,000 USD	510,955,113
10 Year Treasury Note	CBOT	100,000 USD	293,718,907
5 Year Treasury Note	CBOT	100,000 USD	132,149,948
E-mini S&P 500 Index	CME	50 USD	555,328,670

* The New York Mercantile Exchange (NYMEX) joined the CME Group in March 2008.

Today, there is a wide variety of commodities trading on organized exchanges and they seem very different from each other. What does a soybean have in common with crude oil, gold, or a treasury note? They are all commodities, and futures traded commodities share some common characteristics. For example, commodities traded on futures markets…

- are bulk commodities that can be graded into interchangeable lots
- are not processed to the point where they can be branded or identified with an individual firm (the contracts specify, for example, #2 yellow corn and not Kellogg's Corn Flakes).
- have variable prices that are competitively determined. As a system of price discovery, futures trading will not exist in a regulated or fixed price environment.

Storability was once a common characteristic in agricultural markets, but not anymore. Live cattle, feeder cattle and soybean meal are examples of futures traded commodities that are not storable.

Further readings and resources

Self-Study Guide to Hedging with Grain and Oilseed Futures and Options (handbook), CME Group, April 2012 http://www.cmegroup.com/trading/agricultural/self-study-guide-to-hedging-with-grain-and-oilseed-futures-and-options.html

Exercise #5

Go play the game!