The Role of Futures Markets
The Role of Futures Markets

- “Price Discovery”
  - Futures market prices are sometimes used as a proxy for a national average price.
  - What is the value of the commodity in the future?

- “Risk Transfer” or “Risk Shifting”
  - Hedgers: attempt to reduce price risk.
  - Speculators: attempt to profit by accepting risk.
What is a Futures Contract?

• Futures markets trade predefined contracts for the delivery of grain in the future.

• **PRICE** is the *only* contract provision that is negotiable.

• The crop quantity, quality, delivery location and delivery time are all fixed.
What is a Futures Contract?

• You can buy a contract or sell a contract without owning any commodity. The contract is an agreement to deliver in the future.

• Contracts are rarely fully executed (physical deliver made), the are off-set.
  – “Physical delivery” is discouraged.
  – Futures contract is converted to a delivery contract.
What is a Futures Contract?

• Every trading day, a price is “negotiated” for the delivery of the specific commodity (Corn, Soybean, Spring Wheat, ...) at different times in the future.

• The *near-by* futures month is the one closest to today’s date.
## Information in Futures Market

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<th>Ticker</th>
<th>Month</th>
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### CGO Wheat

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Futures Contract for Soybean

• Traded on *Chicago Board of Trade* (CBOT)
• One contract = 5,000 bu. (136.08 MT)
• Delivery Months: September, November, January, March, May, July and August
• Daily Trading Limits:
  – $ 0.65 / bu. (expanded to $ 1.15 / bu.)
  – Periodically adjusted based upon price levels
Futures Contract for Corn

• Traded on *Chicago Board of Trade* (CBOT)
• One contract = 5,000 bu. (127.01 MT)
• Delivery Months: September, December, March, May and July
• Daily Trading Limits:
  – $ 0.25 / bu. (expanded to $ 0.40 / bu.)
  – Periodically adjusted based upon price levels
Futures Contract for Soft Red Winter Wheat

• Traded on *Chicago Board of Trade* (CBOT)

• One contract = 5,000 bu. (136.08 MT)

• Delivery Months: September, December, March, May and July

• Daily Trading Limits:
  – $ 0.35 / bu. (expanded to $ 0.55 / bu.)
  – Periodically adjusted based upon price levels
Futures Contract for Hard Red Winter Wheat

• Traded on *Chicago Board of Trade*
  – The former Kansas City Board of Trade
• One contract = 5,000 bu. (136.08 MT)
• Delivery Months: September, December, March, May and July
• Daily Trading Limits:
  – $ 0.35 / bu. (expanded to $ 0.55)
  – Periodically adjusted based upon price levels
Futures Contract for Hard Red Spring Wheat

• Traded on *Minneapolis Grain Exchange*

• One contract = 5,000 bu. (136.08 MT)

• Delivery Months: September, December, March, May and July

• Daily Trading Limits:
  – $ 0.60 / bu. (expanded to $ 1.10 / bu.)
  – Periodically adjusted based upon price levels
Technical or Chart Analysis

• “Technical Analysis is the study of market action, primarily through the use of charts, for the purpose of forecasting future price trends. The term market action includes the principal source of information available to the technician – price, volume, and open interest.”

• Focus is on the **Futures Market** NOT the **Cash Market**.
Basic Charting – Daily Bar Charts

DTN Prophet-X – CBOT May 2020 Soybean Futures (04-16-20 am)
Basic Charting – Daily Chart

DTN Prophet-X – CBOT May 2020 Soybean Futures (04-16-20 am)
Basic Charting – Daily Chart

Price at *opening* of the trading period.
Highest price during the trading period.
Basic Charting – Daily Chart

Lowest price during the trading period.
Price at the *close* of the trading period.
Trend Lines

• Prices rarely continue to move only in one direction for an extended period of time.
• Identifying general price trends is a valuable tool.
• Identifying changes in price trends can be extremely valuable, but also very difficult to predict consistently.
Trend Lines

• “An uptrend remains intact as long as each successive intermediate high is higher than those proceeding it and each reaction stops at a higher point than earlier reactions.”

• “A downtrend prevails when each intermediate decline carries prices to a lower level while intervening rallies fall short of earlier rallies.”
Basic Charting – Up Trend

DTN Prophet-X – CBOT May 2020 Soybean Futures (04-16-20 am)
Support/Resistance Levels

• Support/Resistance Levels – a price area where a market has a history of meeting selling or buying pressure.

• A support area is formed when a price rally falters and falls to previous (old) highs.

• A resistance area is formed when a price decline reverses and rises to previous (old) lows.
Basic Charting – Support Levels

DTN Prophet-X – CBOT May 2020 Soybean Futures (04-16-20 am)
Basic Charting – Resistance Levels

DTN Prophet-X – CBOT May 2020 Soybean Futures (04-16-20 am)
Volume and Open Interest

- **Volume** – the amount of trading activity associated with a specific market. Commodity futures and options volume is based on the number of contracts exchanged.

- **Open Interest** – the number of options or futures contracts that have been opened and not yet closed out. Open interest gives a good indication of the contract’s liquidity.
Basic Charting – Volume

DTN Prophet-X – CBOT May 2020 Soybean Futures (04-16-20 am)
Basic Charting – Open Interest

DTN Prophet-X – CBOT May 2020 Soybean Futures (04-16-20 am)
Stochastics
Moving Averages

• Simple Moving Average
  - 5 Day = (Sum of closing prices for previous 5 trading days) ÷ 5

• Common Moving Average Time Periods:

• Exponential Moving Averages (EMA)
  - Most charting programs calculate EMA automatically
Moving Average Crossovers

• A down turn in prices is indicated by a “short term” moving average dropping below a “long term” moving average.

• An upturn in prices is indicated by a “short term” moving average rising above a “long term” moving average.
Moving Average Crosses
(5-10-15 day)

DTN Prophet-X – CBOT May 2020 Soybean Futures (04-16-20 am)
Other Indicators

• **Bollinger Bands**
  – Indicator of volatility and overbought/oversold

• **RSI – Relative Strength Indicator**
  – Indicator of “overbought” or “oversold”

• **MACD – Moving Average Convergence/Divergence Indicator**
  – Indicator of price “momentum” or rate of change

• **Price Gaps**

• **Others!**
Bollinger Bands

- An indicator that measures volatility and overbought/oversold market conditions

Calculation:
- A simple moving average is calculated (ex. 20 days)
- The **Standard Deviation** in prices is calculated for this same period
- A multiplier factor is chosen (ex. 2.0)
- The standard deviation is multiplied by the factor and then added to and subtracted from the moving average
Bollinger Bands

• This range becomes the basis for targeting buying or selling opportunities.
  – If daily prices move above the upper band, a price top is indicated.
  – If daily prices move below the lower band, a price bottom is indicated.
  – If daily prices trade between the lower bands, a down trend is indicated.
  – If daily prices trade between the upper bands, a up trend is indicated.
Bollinger Bands

DTN Prophet-X – CBOT May 2020 Soybean Futures (04-16-20 am)
Relative Strength Index - RSI

• Indicator of “overbought” or “oversold” conditions

• Calculation Steps:
  – Choose time period (example: 14 days)
  – Sum all of the price increases during time period and calculate average of increases.
  – Sum all the price decreases during time period and calculate average of decreases.
  – \( RS = \frac{\text{Avg. of Increases}}{\text{Avg. of Decreases}} \)
  – \( RSI = 100 - \left\{ \frac{100}{1+RS} \right\} \)
Relative Strength Index - RSI

- When RSI reaches low levels (ex. 30), low is forming and tendency for prices to begin increasing.
- When RSI reaches high levels (ex. 70), high is forming and tendency for prices to begin decreasing
- If time frame is longer, the mid point (ex. 50) becomes the reference point.
Moving Average
Convergence/Divergence
MACD

• Indicator of price “momentum” or rate of change

• Calculation Steps:
  – Exponential moving average of short time period
  – Exponential moving average of longer time period
  – Exponential moving average of difference between the two time periods
  – Example: 12, 26, [10]
Moving Average
Convergence/Divergence
MACD

• MACD graphic has two lines and one histogram
  – First line is difference between short term and long term exponential moving average (blue)
  – Second line is the exponential moving average of the difference (red)
  – Histogram is difference between two lines
  – When the two moving averages (histogram) converge, the trend may be coming to an end.
Moving Average Convergence/Divergence

MACD

• Used as a “trend filter” and/or as trading signal
  − Trend filter – Using MACD and Moving Average to compare alternative indicator signals
    − When trends are consistent (bullish or bearish) trades can be made with greater confidence
    − When trends are inconsistent (conflicting) may not want to enter or exit trades
  − Trade Signal – Histogram can be used as indicator of trend reversal
    − Should use in combination with other trend indicators!
Questions?