Lecture 1

Introduction to Price Analysis and Forecasting

by

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Required Readings:


*farmland daily* ([www.farmdocdaily.illinois.edu](http://www.farmdocdaily.illinois.edu)) articles on March 29, 2011; April 5, 2011; April 12, 2011; April 19, 2011; November 18, 2011

Commodity Prices

Commodity prices are important both _________ and _________ in almost all countries

Strongly influence level of ______ income

Important factor in export ______ of numerous countries

Influence ______ income in many countries

Uniqueness of Agricultural Commodities

Range of market structure

- Markets with _____________ institutions, sometimes assisted by government regulations

- Markets that are reasonable approximations of textbook ________ pricing

Wide range of government intervention

Agricultural commodity prices are more ________ than the prices of most other ________ goods and services
Monthly Farm Price of Corn in Illinois, January 1947 - December 2012*

Monthly Farm Price of Soybeans in Illinois, December 1947 - December 2012*

Source: NASS/USDA

*December: mid-month
Monthly Farm Price of Wheat in Illinois, January 1947 - December 2012*

Source: NASS/USDA

*December: mid-month

Monthly Farm Price of Hogs in Illinois, January 1947 - December 2012*

Source: NASS/USDA

*December: mid-month
Monthly Farm Price of Steers and Heifers in Illinois, January 1960 - December 2012*

Source: NASS/USDA *December: mid-month

Monthly Farm Price of Milk in Illinois, January 1960 - December 2012*

Source: NASS/USDA *December: mid-month
Why are Agricultural Commodity Prices So Volatile?

1. _________ nature of production

- Significant _______ between decision to produce and realization of production

- Time required to _______ production
  
  - Grain – one year
  
  - Hogs – one year
  
  - Cattle – three years
  
  - Apples – five to ten years

- _____ production can vary enormously from ______ production due to
  
  _______ conditions

  _______

  _______ infestations
2. Nature of __________

- ______ nature of most agricultural production assets, like land and equipment, make it difficult for farmers to ______ to expected price changes ______ (in the short-run)

- Implication is that changes in _______ in the short-run due to expected price changes will be relatively ________

- Result is that agricultural supply functions are _________

3. Nature of __________

- Agricultural commodities are raw materials for a wide-variety of _________

- Majority of _________ is for some form of food

- Consumer responses to changes in _________ are relatively small
• Result is that agricultural demand functions are __________

• Diverse sources of demand, in terms of products and geography, implies a large potential for __________ __________

_Inelastic Demand, Supply and Price Volatility_

![Graph showing inelastic demand, supply, and price volatility](image)
**Degree of Storability**

A key _________ among agricultural commodities is their degree of storability

Some can be stored for ______ periods of time

- Corn
- Soybeans
- Wheat
- Sunflowers
- Peanuts
- Almonds

Some products are highly __________ and can be stored only for ______ periods of time (in live form)

- Hogs
- Cattle
- Milk
- Potatoes
- Apples
- Tomatoes
Tend to group agricultural commodities into two groups __________ and ____________

- Storable commodities

  Price __________

  Strongly ________ price distributions

- Non-storable commodities

  Price ________

  Less skewed price __________
Forecasting in Business

- Because of the large ______ of commodity prices on company earnings, many businesses spend considerable resources on __________

- Particularly true for companies that deal ______ in commodities and need to _____ risks: ADM, Cargill, Caterpillar, ConAgra, Kraft, Weyerhauser

- Employment opportunities for students trained in price analysis and forecasting

- Growing interest in expertise in __________ strategies

- Farmers often subscribe to some type of __________ __________ or employ a marketing consultant to assist with price analysis and marketing
Price Analysis vs. Price Forecasting

Price analysis

- Goal is to ________ the complex array of _____ that influence the level and behavior of commodity prices
- Aids in understanding the __________ of commodity markets
- Policy analysis

Price forecasting

- Goal is to reliably and accurately ______ future price levels of commodities
- __________ strategies
- __________ strategies

In ACE 427 we will focus on price forecasting
Some Important Considerations in Forecasting

1. All meaningful forecasts guide ___________
   - Recognition and awareness of the nature of the decisions will impact the ________________ of the forecasting process

2. Form of forecast statement
   - Simple _____ forecast: fed steer prices for the first quarter of 2013 = $120/cwt.
   - _______ forecast: fed steer prices for the first quarter of 2013 = $110-130/cwt.
   - _______________ forecast: 80% confident that fed steer prices for the first quarter of 2013 will be $100-140/cwt.
   - _______ forecast: provides entire distribution of forecast price

3. Forecast horizon
   - Forecast horizon is the _______ of periods between today and the date of the forecast made
• If dealing with monthly data:

  1-step ahead = One month beyond the current month

  2-step ahead = Two months beyond the current month
  h-step ahead = h months beyond the current month

• More complex situations are common in crop market forecasting

  Typical unit of time is a ______________

  Forecasts typically updated monthly
4. Parsimony principle

- Other things equal, _____ approaches are preferred
- Also known as Occam’s Razor
- _____ approaches tend to work best in real world applications
  - Based on decades of experience and research
  - Simpler models can be estimated more ______
    - Because simpler approaches can be more easily interpreted and understood, ______ behavior and outcomes can be more easily spotted
    - It is easier to ____________ the basic behavior and design of simple approaches, so they are more likely to be used by ____________

Occam's Razor. This maxim, as interpreted by Bertrand Russell, states that if one can explain a phenomenon without assuming this or that hypothetical entity, there is no ground for assuming it, i.e. that one should always opt for an explanation in terms of the fewest possible number of causes, factors, or variables. (Wikipedia)
Simple approaches lessen the chances that _____________ is a problem

Data mining results when a ________ model is tailored to fit historical data very ____ but forecasts the future ___________

In this case, the only thing accomplished is an exquisite job of modeling the _________ in the data

We will focus on two types of “simple” forecasting methods in ACE 427

• ____________ analysis: use of economic models and data on production, consumption, income, etc. to forecast prices

• ____________ analysis: use of past price patterns only to predict future price movements
The Great Debate!

Curiously, however, the broken technician is never apologetic about his method. If anything, he is more enthusiastic than ever. If you commit the social error of asking him why he is broke, he will tell you quite ingeniously that he made the all too human error of not believing his own charts. To my great embarrassment, I once choked conspicuously at the dinner table of a chartist friend of mine when he made such a comment. I have since made it a rule never to eat with a chartist. It’s bad for digestion.

---Burton Malkiel (author of a Random Walk Down Wall Street)

One evening, while having dinner with a fundamentalist, I accidentally knocked a sharp knife off the edge of the table. He watched the knife twirl through the air, as it came to rest with the pointed end sticking into his shoe. “Why didn’t you move your foot”? I exclaimed. ‘I was waiting for it to come back up,” he replied.

---Ed Seykota (an avowed technician)

We will compare the pros and cons of fundamental and technical analysis towards the end of the course