Four Types of Price Variation:
Applications for Marketing and Risk Management

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Price Patterns

• Those caused primarily by fundamental conditions in the market/industry
  – Annual nature of production systems
• Those caused by uncertainty in the markets
  – The markets hunting for a direction
  – Technical charting patterns
Patterns Help Predict Price Variation

- **Types of Price Variation/Market Expectations**
  - **Seasonal**
    - Occur due to nature of commodity being marketed
    - Small grains harvest, weaned calves
    - Dumping effect
    - Carry markets that allow storage of commodities
  - **Cyclical**
    - Similar to seasonal but over a longer period of time
    - Cattle cycle
  - **Trend**
    - Major price moves in the same direction for a significant amount of time & based on fundamentals
  - **Random = Noise**
    - Imperfect knowledge; Short lived
    - Another type of variation will eventually prevail to establish price/patterns

- These Basic Patterns are driven by Fundamentals
Seasonal Pattern
Avg. Monthly Cash Price

Patterns more apparent in averaged Basis data
Avg. Monthly Basis - Billings
DNS (2000 - 2010)

Cents Per Bushel

- Basis 15%  - Basis 14%  - Basis 13%

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

KCBT Daily for Sept 2011, 11-1-10

Upward Trend

Open Interest – Measures Willingness to Participate

Remember OP

Volume – Measures Sense of Urgency

Remember VU

Volume 241.00 Open Interest 6914.00

MACD 14.57 11.68 2.89

RSI 99.83 20.00 80.00

775.0 725.0 675.0 625.0 575.0

40.0 35.0 30.0 25.0 20.0 15.0 10.0

11/01/2010 C=788.4 -14.0 O=788.4 H=788.4 L=788.4 Mov Avg 3 lines

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Mountains & Minds
Seasonal Pattern
Montana Monthly Avg. Steer Prices by Weight

Montana Monthly Avg. Basis by Weight, Steers

Average Monthly Basis, By Cwt Steers, Billings
2000 to 2009

Basis = (Cash – Futures)
CBOT **Weekly**, Nov. 1, 2010

- Seasonal Lows
- Random Noise

CBOT **Daily**, Sept 2011, on 11-1-10

- Upward Trend
- Open Interest – Measures Willingness to Participate
- Remember OP
- Remember VU

Volume – Measures Sense of Urgency
Information From Grain Markets

• Markets often display seasonal patterns for commodities that can be stored
• They help measure the Willingness to participate with high Open Interest
  – Increasing and “traders” want in
• Provides a measure of Urgency, high Volume of contracts traded
  – I think I am where I need to be
• Identify Trends based of fundamentals

Trends Defined

• Major price moves in the same direction for a significant amount of time
• Trends can be up, down, or sideways
• Trends are almost always based on fundamentals
  – Demand and supply
  – Relates to local, regional, global markets
    • Long term issues related to basic harvest, storage, transportation, handling, global markets, weather,…
    • Combinations of several factors at the same time
Random Price Variation

- Random price variation occurs with imperfect knowledge
  - Uncertainty in fundamentals
- Short term weather **scare**s
  - Yields, harvest difficulties
- These variations are relatively short lived
- One of the other three types of price variation will eventually prevail to **establish price**

Sept. 2013 – KCBT – HRW

<table>
<thead>
<tr>
<th>HRW – Billings</th>
<th>Commodity Exchange KCBT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ord.</td>
</tr>
<tr>
<td>Futures Price 1</td>
<td>$8.08</td>
</tr>
<tr>
<td>Avg. Basis 2</td>
<td>$-.73</td>
</tr>
<tr>
<td>Predicted Local Cash Price</td>
<td>$7.35</td>
</tr>
</tbody>
</table>

| Basis Standard Dev. Price Range Forecast 3 | $6.69 – $8.01 | $7.02 – $7.98 | $7.30 – $8.02 | $7.54 – $8.01 |

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1 On February 20th for Sept of 2013
2 Billings Average Basis for 2000 through 2010
3 Predicted Local Cash Price +/- one Standard Deviation of the basis = range of prices = (68% chance of price being in this range)
Contents of the CD

- Marketing-March2013
  - 1_Introduction
  - 2_UnderstandingBasis
  - 3_TraditionalMarketingTools
    - ForwardContracting
    - Futures
    - Options
  - 4_Insurance_RiskManagement
    - Grains
      - Combo-PremiumCalculations
    - Livestock
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      - LRP
  - 5_RiskManagementStrategies
  - 6_Cost-of-Production
    - ERS Budgets
  - 7_ReferenceMaterial

Questions