Executive Summary

- Producer pricing performance is not as poor as advertised.
- On average, however, producers do under-perform the market—more so in corn than in soybeans.
- Producers tend to out-perform the market in “short crop” years.
- Performance has not worsened since 1996.
- Average producer marketing patterns change very little from year-to-year.
- Performance is determined by price pattern, not marketing pattern.
- May need to alter marketing pattern to improve performance by pricing more during pre-harvest periods and less during the summer after harvest.
- The starting point for developing a farm marketing track record is to compute a net price received that is comparable across crop years.
- Net price received should be a weighted-average across bushels priced and adjusted for storage costs and government program benefits.
- Benchmarks are needed to assess marketing performance relative to a standard.
- Market benchmarks measure the price offered by the market.
- Peer benchmarks measure the price received by other farmers.
- Professional benchmarks measure the price received by professional market advisory services.
- All benchmarks should be computed using the same basic assumptions applied to a farmer’s own marketing track record.
- Three types of new generation marketing contracts have been developed in recent years.
- Automated pricing contracts are the most common and are based on the average price offered over some pre-specified window.
- Managed hedging contracts market a pre-specified number of bushels based on the recommendation of a market advisory service.
- Combination contracts are automated pricing rule contracts that allow a farmer to share in the profits, if any, generated by a market advisory service.
Suggested keys to successful marketing include:

1) Develop a realistic marketing objective
2) Construct a track record of marketing performance
3) Compute marketing benchmarks
4) Evaluate marketing performance
5) Identify persistent marketing mistakes
6) Determine portfolio of marketing strategies
7) Evaluate role of new generation contracts
Keys to Developing Successful Grain Marketing Programs

Scott Irwin and Darrel Good

http://www.farmdoc.uiuc.edu/
Overview of Workshop

- Historical Overview on Grain Marketing Performance
- How to Benchmark Performance
- New Generation Contracts
- Keys to Success
WHAT CAN DTN AgDaily DO FOR YOU?

Today, there are two ways for producers to increase their bottom-line profit: increase production efficiency or market more effectively. American farmers and ranchers are already producing at record levels... but USDA statistics indicate farmers sell two-thirds of their crop in the bottom one-third of the crop's annual price range.
### Farm Income Meeting Survey Results, December 2000

<table>
<thead>
<tr>
<th>Question</th>
<th>True (%)</th>
<th>False (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>On average, corn and soybean producers sell 2/3 of their crops in the bottom 1/3 of the price range</td>
<td>77</td>
<td>23</td>
</tr>
</tbody>
</table>
Measuring the Grain Marketing Performance of Illinois Farmers

• Starting point: Measure average price received by farmers
• In theory, would like to have actual track records of a large sample of farmers
• Compute net prices that are comparable across years and farmers
  – Weighted-average price for all bushels produced
  – Account for cost of storing bushels after harvest
  – Account for government program benefits that depend on the pricing decisions of farmer
    • Loan deficiency payments (LDPs)
    • Marketing loan gains (MLGs)
USDA Average Price Received as a Farmer Benchmark

- **Disadvantages**
  - Only available as a statewide average
  - Aggregates across the different grades and quality sold in the market
  - Does not include futures and options trading profits/losses

- **Advantages**
  - Does include forward cash sales (pre- and post-harvest)
  - Incorporates actual marketing pattern of farmers
USDA Average Price Received as a Farmer Benchmark

• An “indicator” of marketing performance by Illinois farmers

• Proceed by:
  – Applying commercial storage and interest opportunity costs
  – Add state average LDPs and MLGs
Market Benchmarks: Comparing Performance to the Market

- Basic concept: Measure average price offered by the market
- Provides a performance “standard” or “yardstick”
- As closely as possible, apply the same assumptions to market and farmer benchmarks
24-Month Average Price as a Market Benchmark

• 24-month marketing window
  – One year pre-harvest
  – One year post-harvest
• Cash forward prices for central Illinois averaged during pre-harvest period
• Spot cash prices for central Illinois averaged during post-harvest period
• LDP/MLGs taken as grain is delivered
• Computed using the same commercial storage assumptions as applied to farmer benchmark
Farmer and Market Benchmark Prices for Corn, Central Illinois, 1975-2001
Difference Between Farmer and Market Benchmark Prices for Corn, Central Illinois, 1975-2001
Difference Between Farmer and Market Benchmark Prices for 50/50 Revenue, Central Illinois, 1975-2001
Classification of Crop Years

- All crop years (27 years)
  - 1975-2001
- Normal crop years (21 years, or 78%)
- Short crop years (6 years, or 22%)
- Post-FAIR Act
  - 1996-2001
# Average Difference Between Farmer and Market Benchmark Prices for Central Illinois, 1975-2001

<table>
<thead>
<tr>
<th></th>
<th>Corn</th>
<th>Soybeans</th>
<th>50/50 Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All Crop Years</strong></td>
<td>$ -0.08/bu.</td>
<td>$ -0.04/bu.</td>
<td>$ -7/ac.</td>
</tr>
<tr>
<td><strong>Normal Crop Years</strong></td>
<td>$ -0.13/bu.</td>
<td>$ -0.14/bu.</td>
<td>$ -12/ac.</td>
</tr>
<tr>
<td><strong>Short Crop Years</strong></td>
<td>$ +0.09/bu.</td>
<td>$ +0.33/bu.</td>
<td>$ +10/ac.</td>
</tr>
<tr>
<td><strong>Post-FAIR</strong></td>
<td>$ -0.13/bu.</td>
<td>$ -0.11/bu.</td>
<td>$ -13/ac.</td>
</tr>
</tbody>
</table>
# Average Difference Between Farmer and Market Benchmark Prices for Central Illinois, 1975-2001, w/out LDP/MLGs

<table>
<thead>
<tr>
<th></th>
<th>Corn</th>
<th>Soybeans</th>
<th>50/50 Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All Crop Years</strong></td>
<td>$ -0.09/bu.</td>
<td>$ -0.05/bu.</td>
<td>$ -8/ac.</td>
</tr>
<tr>
<td><strong>Normal Crop Years</strong></td>
<td>$ -0.14/bu.</td>
<td>$ -0.16/bu.</td>
<td>$ -14/ac.</td>
</tr>
<tr>
<td><strong>Short Crop Years</strong></td>
<td>$ +0.09/bu.</td>
<td>$ +0.33/bu.</td>
<td>$ +10/ac.</td>
</tr>
<tr>
<td><strong>Post-FAIR</strong></td>
<td>$ -0.16/bu.</td>
<td>$ -0.18/bu.</td>
<td>$ -17/ac.</td>
</tr>
</tbody>
</table>
## Average Difference Between Farmer and Market Benchmark Production Value for State of Illinois, 1975-2001

<table>
<thead>
<tr>
<th></th>
<th>Corn</th>
<th>Soybeans</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All Crop Years</strong></td>
<td>$ -129 mil.</td>
<td>$ -22 mil.</td>
<td>$ -151 mil.</td>
</tr>
<tr>
<td><strong>Short Crop Years</strong></td>
<td>$ +74 mil.</td>
<td>$ +97 mil.</td>
<td>$ +170 mil.</td>
</tr>
<tr>
<td><strong>Post-FAIR</strong></td>
<td>$ -204 mil.</td>
<td>$ -50 mil.</td>
<td>$ -254 mil.</td>
</tr>
</tbody>
</table>
Farmer and Market Benchmark Return-Risk Tradeoff for Corn, Central Illinois, 1975-2001

- 24-Month Market Benchmark
- USDA Farmer Benchmark
- Higher Price, Less Risk
- Higher Price, More Risk
- Lower Price, Less Risk
- Lower Price, More Risk

Graph shows the relationship between the average price of corn and its standard deviation of price, indicating the tradeoff between return and risk.

![Graph showing the relationship between average price and standard deviation of price, with labels for higher and lower prices and risk levels.]
Farmer and Market Benchmark Return-Risk Tradeoff for 50/50 Revenue, Central Illinois, 1975-2001
Corn Marketing Pattern of Illinois Farmers, 1975-2001

The diagram illustrates the USDA Marketing Weight (%) for corn marketing pattern of Illinois farmers over the years 1975 to 2001. The graph shows the minimum, maximum, and average USDA Marketing Weight (%) across different months from September to August.
Soybean Marketing Pattern of Illinois Farmers, 1975-2001
Corn Marketing Pattern of Illinois Farmers by Crop Year Classification, 1975-2001
Soybean Marketing Pattern of Illinois Farmers by Crop Year Classification, 1975-2001

- USDA Marketing Weight (%)
- All
- Normal
- Short
- Post-FAIR

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

Range of USDA Marketing Weight (%):
0 to 25
## Corn Marketing Pattern of Illinois Farmers by Crop Year Classification, 1975-2001

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>All Crop Years</td>
<td>34%</td>
<td>42%</td>
<td>24%</td>
</tr>
<tr>
<td>Normal Crop Years</td>
<td>33%</td>
<td>42%</td>
<td>25%</td>
</tr>
<tr>
<td>Short Crop Years</td>
<td>36%</td>
<td>43%</td>
<td>21%</td>
</tr>
<tr>
<td>Post-FAIR</td>
<td>31%</td>
<td>43%</td>
<td>26%</td>
</tr>
</tbody>
</table>
## Soybean Marketing Pattern of Illinois Farmers by Crop Year Classification, 1975-2001

<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>All Crop Years</td>
<td>36%</td>
<td>41%</td>
<td>23%</td>
</tr>
<tr>
<td>Normal Crop Years</td>
<td>35%</td>
<td>41%</td>
<td>23%</td>
</tr>
<tr>
<td>Short Crop Years</td>
<td>36%</td>
<td>40%</td>
<td>24%</td>
</tr>
<tr>
<td>Post-FAIR</td>
<td>33%</td>
<td>44%</td>
<td>24%</td>
</tr>
</tbody>
</table>
Central Illinois Corn Prices Over the 24-Month Marketing Window, 1975-2001, Adjusted for Carrying Charges, w/out LDP/MLGs
Central Illinois Corn Prices Over the 24-Month Marketing Window, 1975-2001, Adjusted for Carrying Charges, w/out LDP/MLGs
Central Illinois Corn Prices Over the 24-Month Marketing Window, 1975-2001, Adjusted for Carrying Charges, w/out LDP/MLGs
Central Illinois Corn Prices Over the 24-Month Marketing Window, 1996-2001, Adjusted for Carrying Charges, w/out LDP/MLGs
Central Illinois Soybean Prices Over the 24-Month Marketing Window, 1975-2001, Adjusted for Carrying Charges, w/out LDP/MLGs
Central Illinois Soybean Prices Over the 24-Month Marketing Window, 1975-2001, Adjusted for Carrying Charges, w/out LDP/MLGs
Central Illinois Soybean Prices Over the 24-Month Marketing Window, 1975-2001, Adjusted for Carrying Charges, w/out LDP/MLGs
Central Illinois Soybean Prices Over the 24-Month Marketing Window, 1996-2001, Adjusted for Carrying Charges, w/out LDP/MLGs
What Have We Learned?

- Producer pricing performance is not as poor as advertised.
- On average, however, producers do under-perform the market—more so in corn than in soybeans.
- Producers tend to out-perform the market in “short crop” years.
- Performance has not worsened since 1996.
What Have We Learned?

• Average producer marketing patterns change very little from year-to-year
• Performance is determined by price pattern, not marketing pattern
• May need to alter marketing pattern to improve performance
  - price more during pre-harvest period
  - price less during the summer after harvest
What Is the Problem?

A farmer’s perspective:

“If there’s anything I’ve learned in the past 30 years of studying and marketing grain, it’s this: Even with the right marketing plan and advisories, the critical calls to price grain are often not made.”

---Top Producer, December 2001
Potential Psychological Mistakes in Marketing

- **Anchoring**
  - We are reluctant to revise long-held opinions
  - “This is what I always do!”

- **Loss Aversion and Regret**
  - We put off realizing losses to avoid painful regret involved in a “losing” decision
  - Results in maintaining losing positions too long
  - Store grain too long because unwilling to accept that price has peaked
Potential Psychological Mistakes in Marketing

- **Fallacy of Small Numbers**
  - We place too much weight on limited data
  - Results in chasing “hot” strategies or advisors

- **Overconfidence**
  - We are overconfident about our abilities
  - Over-estimate accuracy of price expectations
  - Store grain too long because too much confidence placed on bullish forecasts
Potential Psychological Mistakes in Marketing

• Hindsight bias
  – We tend to remember successes and forget failures
  – Past marketing successes are too influential in forming expectations
Avoiding Psychological Mistakes in Marketing

• Get the facts on your performance
  – Compute your track record
  – Compare to objective benchmarks
• Study your decision-making weaknesses
• Where ever possible, seek independent views
• Focus on whole farm profits, not individual pricing decisions
• Focus on results over a large number of years
• Consider “automated” pricing strategies that you cannot reverse
Some Helpful References


The Starting Point

What is your grain marketing track record?

Good? ______
Average? ______
Poor? ______
A related question:

What is your average price received compared to a realistic benchmark?

Last Year?  ________
3-Year Average?  ________
5-Year Average?  ________
Benchmarking Your Marketing Track Record

• Quick Approach
  – Compute your marketing weights
  – Compute marketing performance based on a standard market price series

• Complete Approach
  – Compute net price received that is comparable across years
  – Compute market, peer and professional benchmarks on a comparable basis to your track record
Quick Approach to Benchmarking

1. Assemble data to compute marketing weights each month over the 24-month pricing window for a crop year
   - Account for forward, futures and options sales
2. Multiply weights by monthly average prices
   - Prices should be adjusted for storage costs
   - Prices should be for a comparable area, e.g., central Illinois
3. Add speculative futures/options gains or losses
4. Add your weighted-average LDP/MLG gains
5. Compare to the 24-month average cash price
   - Adjusted for storage costs
   - Includes LDP/MLGs
Complete Approach to Benchmarking

1. Assemble records for a given crop: bushels sold, cash and forward sales, futures and options transactions
2. Adjust each sale for moisture and quality discounts; sale prices should be stated on a No.2 basis for corn and No.1 basis for soybeans
3. Compute the weighted-average cash price received
4. Subtract physical storage charges on all bushels stored post-harvest
5. Subtract interest opportunity cost on all bushels stored post-harvest
6. Compute profit/loss on all futures and options transactions
7. Add LDP and/or marketing loan benefits
Carrying Cost Comparison for Corn, Central Illinois, 2000 Crop Year

- Harvest Price
- Harvest Price - On-farm Variable Carrying Cost
- Harvest Price - Commercial Carrying Cost

Months of Storage:
1 2 3 4 5 6 7 8 9 10

$/bushel:
1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80
Carrying Cost Comparison for Soybeans, Central Illinois, 2000 Crop Year

- Harvest Price
- Harvest Price - On-farm Variable Carrying Cost
- Harvest Price - Commercial Carrying Cost

$/bushel vs. Months of Storage

- $4.80
- $4.70
- $4.60
- $4.50
- $4.40
- $4.30
- $4.20
- $4.10
- $4.00
- $3.90
- $3.80

1 2 3 4 5 6 7 8 9 10

Months of Storage
Three Basic Types of Benchmarks

- **Market benchmarks**: prices offered by the market
- **Peer benchmarks**: prices received by other farmers
- **Professional benchmarks**: prices received by agricultural market advisory services
Market Benchmarks: Comparing Your Performance to the Market

- Basic concept: Measure average price offered by the market
- Critical that you use same assumptions used for your track record and the benchmark
  - Need to use local forward and spot prices
Key Issues in Building a Market Benchmark

- Forward and cash prices should be for the same (or similar) location, grade and quality as your sales (preferably No. 2 corn, No. 1 soybeans)
- Commercial bid prices should be used instead of USDA average price received
- Physical storage and interest opportunity costs should be the same as those in your track record
- LDPs and MLGs should be included
- Time window for averaging should be similar to your typical decision horizon for marketing grain
Peer Benchmarks: Comparing Your Performance to Other Farmers

- **USDA average price received**
  - An “indicator” of marketing performance of farmers

- **Proceed by:**
  - Applying the same physical storage and interest opportunity costs as used in your track record and market benchmark
  - Adding state average LDPs and MLGs
  - Making basis adjustment if outside central Illinois
Professional Benchmarks: Comparing Your Performance to Market Advisory Services

- Compute net prices for market advisory services
  - Comparable basis to your own track record and other benchmarks
  - Not practical for most farmers
- AgMAS Project does compute net prices for a number of advisory services
- AgMAS prices are based on central Illinois data
- If farming outside of this area, AgMAS prices are not directly comparable to your track record
  - Basis and yield differences
Your Marketing Performance

• I’m a Good Marketer
  – Inclined to be an active marketer

• I’m A Poor Marketer
  – Inclined to be a passive marketer
New Generation Grain Marketing Contracts

- Contracts follow prescribed rules for generating sales
- Goal is to achieve a price near or above the average price offered by the market over a given time
- Interest in new generation contracts has increased rapidly in recent years
  - one set of contracts is offered by about 650 grain elevators in a dozen Midwestern states
Who Are the Major Players?

- **Cargill Ag Horizons**

- **E-markets/Decision Commodities**

- **Diversified Services**
  - http://www.cgb.com/

- **Many local elevators**
Three Basic Types of New Generation Contracts

1. Automated pricing rules
2. Managed hedging
3. Combination of the first two
Averaging Contract

• Most basic form of automated pricing rule contracts

• Average price over some pre-specified time window
  – Average futures price, you set basis, or
  – Average a local cash price

• With some exceptions, limited to pre-harvest pricing windows
Motivation for Averaging Contracts

- Provide discipline to make systematic sales
- Finding that professionals and farmers have a tough time beating the market
- Consistent with idea of efficient markets (stock index funds)
More Complex Forms of Automated Pricing Rule Contracts

- Loan-rate provision
- Only sell on down days
- Establish minimum, maximum price or both
- Vary proportion sold by month
- Sell only when pre-specified targets are reached
Managed Hedging Contracts

• Bushels committed to contract are hedged according to the recommendations of a market advisory service

• Advisor may use a variety of instruments, including futures, options or forward contracts

• May include a minimum futures price
Combination Contracts

- An automated pricing contract plus share of professional’s hedging profits
  - Average price contract most typical
- May include a minimum futures price
- In addition to a service charge, may include additional incentive for professional
  - Example: if hedge in top third of price range, professional earns additional fee
Some Potential Cautions

- Final price not known when contract is signed
- Transparency of transactions
- Ability to monitor transactions
- Creditworthiness and trustworthiness of counter-party
- Want to avoid “rogue trader” problems
Keys to Successful Marketing

1) Develop a realistic marketing objective
   ✓ average market price
   ✓ top one-third of price range

2) Construct a track record of marketing performance
   ✓ marketing pattern
   ✓ average price received

3) Compute marketing benchmarks
   ✓ market
   ✓ peers
   ✓ professionals
Keys to Successful Marketing

4) Evaluate marketing performance
   ✓ on average
   ✓ by type of year: normal, short crop

5) Identify persistent marketing mistakes

6) Determine portfolio of marketing strategies
   ✓ active
   ✓ passive

7) Evaluate role of new generation contracts