Outlook for Commodity Prices

Darrel Good
US Corn Production

Billion Bushels

79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05
Feed and Residual Use of U.S. Corn

million bushels

3800 3900 4000 4100 4200 4300 4400 4500 4600 4700 4800 4900 5000 5100 5200 5300 5400 5500 5600 5700 5800 5900 6000 6100

79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03* 04* 05*
Food and Industrial Use of U.S. Corn

![Graph showing the million bushels of corn used for food and industrial purposes from 1979 to 2005.](image)
US Corn Exports

- **Billion Bushels**
- **Years:** 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 00, 01, 02*, 03*, 04*, 05*
Ending Stocks of Corn

million bushels

79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02*03*04*05*
US Corn Acres Planted

1,000 Acres

79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03*04*05*
US Corn Yields

Bushels per Acre

Years: 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 00, 01, 02, 03, 04, 05
Average Farm Price of Corn

* projected
US Soybean Production

Billion Bushels

10
U.S. Soybean Crush

million bushels

1750
1700
1650
1600
1550
1500
1450
1400
1350
1300
1250
1200
1150
1100
1050
1000
950
900

79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03*04*05*
US Soybean Exports
South American Soybean Production

million bushels

250 500 750 1000 1250 1500 1750 2000 2250 2500 2750 3000 3250 3500 3750 4000

75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05
Ending Stocks of Soybeans

million bushels

Year

US Soybean Acres Planted
U.S. Soybean Yields
Average Farm Price of Soybeans

Prices

79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03* 04* 05*
US Wheat Production

million bushels

Year: 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05*
US Wheat Exports

Million Bushels

79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03*04*05*
Ending Stocks of Wheat

million bushels

79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05
US Wheat Acres Planted

The graph shows the number of acres planted with wheat in the US from 1979 to 2005. The number of acres planted has generally decreased over time, with fluctuations in the early years.
US Wheat Yield Per Acre

The graph shows the US wheat yield per acre from 1979 to 2005. The yield has fluctuated over the years, with notable peaks in the early 1980s, around 1990, and in 2000. There is also a linear trend line that indicates a gradual increase in yield over the period.
U.S. Cow Inventory
1930-2005

Source: USDA & K-State Research & Extension
KSU Dept. of Ag Econ
www.agmanager.info
US Commercial Beef Production

Million Pounds

21000 21500 22000 22500 23000 23500 24000 24500 25000 25500 26000 26500 27000 27500 28000

79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06
Annual U.S. Beef Exports

Source: USDA & K-State Research & Extension
Slaughter Steer Price

Cents/Lb

79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06*
U.S. Quarterly Hogs and Pigs Inventory
September 1

Million Head

USDA-NASS
9-30-2005
U.S. Quarterly Litter Rate
June-August

Number Head

USDA-NASS
9-30-2005
US Commercial Pork Production
U.S. Pork Exports

Source: USDA & KSU

www.agmanager.info
Hog Prices
(Barrows and Gilts, U.S.)
Illinois Farm Income Outlook

by Dale Lattz, Paul Ellinger and Gary Schnitkey
Objectives

• Evaluate the financial condition of Illinois grain farms for 2005.

• Evaluate the impact of the current farm program.

• Look ahead to 2006.
Approach

• Use a sample of Illinois FBFM grain farms with historical financial records.
• Use projections of yields and prices to determine revenue for each farm.
• Adjust historical expenses and financial data for each farm.
• Project net farm income and net worth change for each farm in the sample.
Sample Farms by Size

805 grain farms
Average farm:
908 total acres
702 operator acres

- 501 to 1000 acres: 43%
- 1001 to 1500 acres: 20%
- 1501 to 2000 acres: 8%
- 300 to 500 acres: 19%
- Less than 300 acres: 5%
- Greater than 2000 acres: 5%
Corn and Soybean Yields in 2005 are a Mixed Bag

Good News: Not quite as bad as early forecasts:
Aug. report: Corn = 125  Soybeans=39
Declining Grain Prices*

* Marketing year average for Illinois
Key Assumptions

• Estimated prices received / year end inventory price
  – Corn: $1.80 / bu.
  – Soybeans: $5.40 / bu.
  – Wheat: $3.20 / bu.

• Estimated LDPs included
  – Corn: $.35 / bu.
  – Soybeans: $.00 / bu.

• Counter-cyclical payments estimated at $.40 per bu. for corn, $.00 for beans and wheat
Key Assumptions – cont.

• Marketing margins on old crop
  – Corn: Gain of $0.25/bu. – 69% of crop
  – Soybeans: Gain of $0.50/ bu. – 59% of crop

• Pricing opportunities on new crop
  – Corn – 10% sold at $2.30 (+$0.50 over inv.)
  – Soybeans – 10% sold at $6.50 (+$1.10 over inv.)

• Use NASS November report of district projections of yields
Estimated Yields

November 2005 NASS projections. Yields adjusted to represent differences between NASS and FBFM.

<table>
<thead>
<tr>
<th>FBFM Adjusted Yields</th>
<th>Soybean Yield</th>
<th>Corn Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crop Reporting District</td>
<td>2004</td>
<td>2005</td>
</tr>
<tr>
<td>Northwest</td>
<td>54</td>
<td>50</td>
</tr>
<tr>
<td>Northeast</td>
<td>53</td>
<td>46</td>
</tr>
<tr>
<td>West</td>
<td>55</td>
<td>52</td>
</tr>
<tr>
<td>Central</td>
<td>56</td>
<td>52</td>
</tr>
<tr>
<td>East</td>
<td>53</td>
<td>53</td>
</tr>
<tr>
<td>West Southwest</td>
<td>55</td>
<td>49</td>
</tr>
<tr>
<td>East Southeast</td>
<td>53</td>
<td>46</td>
</tr>
<tr>
<td>Southwest</td>
<td>49</td>
<td>46</td>
</tr>
<tr>
<td>Southeast</td>
<td>49</td>
<td>48</td>
</tr>
<tr>
<td>NASS Weighted Average</td>
<td>54</td>
<td>50</td>
</tr>
</tbody>
</table>
Other Key Assumptions

- Average increase in farm size -- 3.0%
- Operating expenses adjustments from 2004
  - Crop expenses - - 8% increase
  - Fuel and oil - - 50% increase
  - Other machinery expenses - - 5% increase
  - All other expenses - - 3.5% increase
- Market value machinery -- no change
- Machinery economic depreciation --10% increase
- Land values -- 10% increase
- Interest expense -- 15% increase
Net Farm Income

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>$31,746</td>
</tr>
<tr>
<td>2002</td>
<td>25,346</td>
</tr>
<tr>
<td>2003</td>
<td>71,459</td>
</tr>
<tr>
<td>2004</td>
<td>90,651</td>
</tr>
<tr>
<td>2005</td>
<td><strong>39,000 – 45,000</strong> Estimate</td>
</tr>
</tbody>
</table>

Net farm income does not include:

- Payments for operator labor/family withdrawals
- Nonfarm income
- Income and SE taxes
Net Farm Income 2000 - 2005

* Estimated

2000 – 2005 average net farm income = $52,300!!
Sensitivity of Estimate

One bushel change in

- Corn yields
  Change in Average Income: $ 900
- Soybean yields
  Change in Average Income: 1,800

Change in effective price

- Corn price - $.05
  Change: $ 3,000
- Soybean price - $.20
  Change: 3,200
Net Farm Income by Region

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Northwest</td>
<td>$19,257</td>
<td>$34,389</td>
<td>$51,386</td>
<td>$82,436</td>
<td>$30,038</td>
</tr>
<tr>
<td>Northeast</td>
<td>$23,729</td>
<td>$17,645</td>
<td>$55,109</td>
<td>$72,015</td>
<td>$16,407</td>
</tr>
<tr>
<td>Central &amp; West</td>
<td>$29,348</td>
<td>$31,749</td>
<td>$65,722</td>
<td>$78,106</td>
<td>$45,981</td>
</tr>
<tr>
<td>East</td>
<td>$37,395</td>
<td>$42,927</td>
<td>$67,377</td>
<td>$92,772</td>
<td>$68,454</td>
</tr>
<tr>
<td>West Southwest</td>
<td>$21,423</td>
<td>$47,829</td>
<td>$105,160</td>
<td>$117,949</td>
<td>$65,806</td>
</tr>
<tr>
<td>East Southeast</td>
<td>$47,117</td>
<td>$(19,877)</td>
<td>$87,762</td>
<td>$100,243</td>
<td>$32,049</td>
</tr>
<tr>
<td>Southwest</td>
<td>$31,107</td>
<td>$(7,714)</td>
<td>$71,504</td>
<td>$81,059</td>
<td>$24,362</td>
</tr>
<tr>
<td>Southeast</td>
<td>$49,483</td>
<td>$(19,877)</td>
<td>$61,509</td>
<td>$101,504</td>
<td>$42,001</td>
</tr>
<tr>
<td>NASS Weighted Average</td>
<td>$31,746</td>
<td>$25,346</td>
<td>$71,459</td>
<td>$90,651</td>
<td>$41,837</td>
</tr>
</tbody>
</table>
Change in Net Farm Income 2004 to 2005

- $52,400
- $51,400
- $29,000
- $52,100
- $56,700
- $55,600
- $24,300
- $68,200
- $59,500
### Distribution of Net Farm Income

**Distribution Net Farm Incomes of Illinois Grain Farms**

<table>
<thead>
<tr>
<th>Net Farm Income</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less Than - 50,000</td>
<td></td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>-50,000 to 0</td>
<td>2%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>0 to 20,000</td>
<td>7%</td>
<td>11%</td>
<td>14%</td>
</tr>
<tr>
<td>20,000 to 50,000</td>
<td>17%</td>
<td>23%</td>
<td>26%</td>
</tr>
<tr>
<td>50,000 to 100,000</td>
<td>30%</td>
<td>35%</td>
<td>35%</td>
</tr>
<tr>
<td>Greater than 100,000</td>
<td>23%</td>
<td>20%</td>
<td>33%</td>
</tr>
</tbody>
</table>

Farms below $20,000

- **2004**: 9%
- **2005**: 32%
Changes to Net Worth

Net Income $41,837
- Family Living 63,346
+ Nonfarm Income 28,860
- Income Taxes 13,789
-/+ Valuation Change 53,095

Total Change in Net Worth
2004 to 2005 $46,657

Assumptions:
• 10.0% increase in land values
• no change in machinery values
Distribution of Illinois Grain Farms by Financial Position Category, 2003-2005

Financial Position

- Strong
- Stable
- Vulnerable
- Stressed
- Severe

Percent of farms

Year

2003
2004
2005
# Maximum Counter-Cyclical Payment Rate

<table>
<thead>
<tr>
<th></th>
<th>Corn</th>
<th>Soybeans</th>
<th>Wheat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target price</td>
<td>$2.63</td>
<td>$5.80</td>
<td>$3.92</td>
</tr>
<tr>
<td>Direct payment rate</td>
<td>0.28</td>
<td>0.44</td>
<td>0.52</td>
</tr>
<tr>
<td>Trigger price $¹</td>
<td>2.35</td>
<td>5.36</td>
<td>3.40</td>
</tr>
<tr>
<td>Loan rate</td>
<td>1.95</td>
<td>5.00</td>
<td>2.75</td>
</tr>
<tr>
<td>Max. counter-cyclical payment $²</td>
<td>0.40</td>
<td>0.36</td>
<td>0.65</td>
</tr>
</tbody>
</table>

¹ Trigger price equals target price less direct payment rate.
² Equals trigger price minus loan rate.

Higher of loan rate or season average price used in rate calculation
## Outlook for 2005 CC Payments

<table>
<thead>
<tr>
<th></th>
<th>Corn</th>
<th>Soybeans</th>
<th>Wheat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trigger price</td>
<td>$2.35</td>
<td>$5.36</td>
<td>$3.40</td>
</tr>
<tr>
<td>12 month est. price for 2005*</td>
<td>$1.80</td>
<td>$5.35</td>
<td>$3.40</td>
</tr>
<tr>
<td>2005 CC Payments??</td>
<td>.40 (max)</td>
<td>.??</td>
<td>.??</td>
</tr>
<tr>
<td>We used...</td>
<td>.40</td>
<td>.00</td>
<td>.00</td>
</tr>
<tr>
<td>Advance</td>
<td>.14</td>
<td>.00</td>
<td>.00</td>
</tr>
</tbody>
</table>

* Midpoint of Nov. 10 USDA Supply and Demand Report

** See Counter-cyclical tool in Marketing section of farmdoc
Significance of Government Payments

Average

Net Farm Income $ 41,837
Government Payments 54,365

Direct payments 15,733
Counter-cyclical payments 17,873
Loan deficiency payments 20,759

<table>
<thead>
<tr>
<th>Direct Payment</th>
<th>Counter Cyclical Payment</th>
<th>LDP Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn</td>
<td>0.28</td>
<td>Corn 0.35</td>
</tr>
<tr>
<td>Soybeans</td>
<td>0.44</td>
<td>Soybeans 0.00</td>
</tr>
<tr>
<td>Wheat</td>
<td>0.52</td>
<td>Wheat 0.00</td>
</tr>
</tbody>
</table>
# LDP and Market Loan Gains

<table>
<thead>
<tr>
<th>Crop Year</th>
<th>LDP Payments</th>
<th>Market Loan Gain</th>
<th>% Bu. Receive LDP or Gain</th>
<th>Effective Bu. Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Corn</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2002</td>
<td>$0</td>
<td>$1,514,160</td>
<td>2.1%</td>
<td>$0.00</td>
</tr>
<tr>
<td>2003</td>
<td>$15,074,900</td>
<td>$2,964,600</td>
<td>17.6%</td>
<td>$0.01</td>
</tr>
<tr>
<td>2004</td>
<td>$530,644,710</td>
<td>$25,277,600</td>
<td>88.3%</td>
<td>$0.27</td>
</tr>
<tr>
<td>2005*</td>
<td>Incomplete data but large percent of crop will be LDP’d</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Soybeans</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2002</td>
<td>$3,441,330</td>
<td>$34,810</td>
<td>9.1%</td>
<td>$0.01</td>
</tr>
<tr>
<td>2003</td>
<td>$1,560</td>
<td>$71,960</td>
<td>0.1%</td>
<td>$0.00</td>
</tr>
<tr>
<td>2004</td>
<td>$54,040,840</td>
<td>$1,192,220</td>
<td>48.9%</td>
<td>$0.11</td>
</tr>
<tr>
<td>2005*</td>
<td>Incomplete data but small amount of crop expected to be LDP’d</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

http://www.fsa.usda.gov/dafp/psd/reports.htm

*As of Nov. 22 – Incomplete!!
### A Quick Look at Livestock

**Livestock and Milk Prices Received**

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hogs</td>
<td>44.93</td>
<td>34.64</td>
<td>40.41</td>
<td>53.54</td>
<td>53.22</td>
</tr>
<tr>
<td>Cattle</td>
<td>73.70</td>
<td>67.50</td>
<td>85.54</td>
<td>86.08</td>
<td>86.89</td>
</tr>
<tr>
<td>Beef calves</td>
<td>110.25</td>
<td>94.54</td>
<td>98.54</td>
<td>112.50</td>
<td>121.11</td>
</tr>
<tr>
<td>Milk</td>
<td>15.09</td>
<td>12.08</td>
<td>12.83</td>
<td>16.64</td>
<td>15.74</td>
</tr>
</tbody>
</table>

* Through September
Looking Ahead to 2006

• 5 year average corn (160 bu.) and soybean (47 bu.) yields
• Corn price = $2.25  Soybean price = $5.80
• No LDP and 10 cent CC payment for corn
• Increase in crop costs
Looking Ahead to 2006

Net Farm Income similar to 2005 income, in the $40,000 – 45,000 range or about $10,000 less than the 5 year average!!
Conclusions and Summary

• Grain farms only, limited livestock returns

• Excellent soybean yields, below average corn yields, lower grain prices and higher input costs result in lower incomes

• Could have been much worse, if August crop report yields happened, income would have been $30,000 less without price response

• Crop insurance important, adds $3,000 to net farm income average
Conclusions and Summary – cont.

• Highest income across central part of the state, lower incomes follow lower yields, northeastern Illinois

• Due to lower grain prices, first time since 2001 government payments more than net farm income

• Increasing land values and non farm income keep balance sheets in good condition

• RED FLAG!! Cash flow could be tight next year, above average yields and/or higher prices needed to offset higher input costs
Run-Up to the Next Farm Bill
Robert L. Thompson
“A successful Doha Round will reduce and eliminate tariffs and other barriers on farm and industrial goods. It will end unfair agricultural subsidies…. We must work together in the Doha negotiations to eliminate agricultural subsidies that distort trade and stunt development, and to eliminate tariffs and other barriers to open markets for farmers around the world…. The United States is ready to eliminate all tariffs, subsidies and other barriers to free flow of goods and service as other nations do the same.”

President George W. Bush
United Nations
September 14, 2005

"Let me be clear, the Congress will be writing the next farm bill in 2007, and I am deeply concerned the administration is using the current negotiations to reshape farm policy without the full input of Congress and grassroots support…. As Chairman of the Senate Agriculture Committee, I have a responsibility and duty to protect the farm safety net…”

Saxby Chambliss, Chairman
Senate Agriculture Committee
Towards the Next Farm Bill: Points to Remember

• A farm bill is much more than commodity programs
  • 2002 Farm Bill had 10 titles
• Two-thirds of U.S. agriculture receives no commodity payments, but most is affected by programs authorized in one or more title.
• A farm bill is authorizing legislation. Without an appropriation each year, nothing happens.
• EXCEPT: In the case of commodity programs set up as entitlements under the Commodity Credit Corporation, which draws on a $30 billion line of credit at U.S. Treasury which is periodically replenished by the Congress.
• To reduce commodity program entitlements requires amendment of the authorizing legislation in the last farm bill.
2002 Farm Bill Had 10 Titles

• I. Commodity Programs
• II. Conservation
• III. Agricultural Trade and Aid
• IV. Nutrition Programs
• V. Farm Credit
• VI. Rural Development
• VII. Research
• VIII. Forestry
• IX. Energy
• X. Miscellaneous
Future U.S. Farm Policy: Forces for Preserving Status Quo

- Many farmers are satisfied with the status quo.
- Farm policy changes are normally evolutionary, not revolutionary.
- Agriculture groups are generous campaign contributors
- Politics
  - Rural America reelected George Bush
  - Rural America important to both parties’ future
  - Iowa has one of earliest Presidential primaries
- Fear of causing a farm land price collapse
Who Reelected President Bush?
Rural America

Source: Univ. of Michigan
Campaign Contributions

• Congressional and Presidential elections are extremely expensive in the United States.
• Little real campaign reform has been achieved.
• Farm organizations and commodity groups are generous campaign contributors.
• There is a positive correlation between relative size of campaign contributions and the size of farm program benefits.
### Ag Political Action Committee Contributions to Federal Candidates, 2004 Elections

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Contributions ($ 1,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sugar</td>
<td>2,375</td>
</tr>
<tr>
<td>Dairy</td>
<td>1,757</td>
</tr>
<tr>
<td>Cotton</td>
<td>479</td>
</tr>
<tr>
<td>Rice</td>
<td>283</td>
</tr>
<tr>
<td>Peanuts</td>
<td>218</td>
</tr>
<tr>
<td>Citrus</td>
<td>167</td>
</tr>
<tr>
<td>Wheat</td>
<td>100</td>
</tr>
<tr>
<td>Potatoes</td>
<td>57</td>
</tr>
<tr>
<td>Corn</td>
<td>37</td>
</tr>
<tr>
<td>Soybeans</td>
<td>17</td>
</tr>
</tbody>
</table>

Source: Center for Responsive Politics (Federal Election Commission data)
U.S. Producer Support, 2001-2003
(Percent of producers’ gross revenue)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Sugar</td>
<td>58</td>
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<td>Milk</td>
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<td>Rice</td>
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<td>Sorghum</td>
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<td>Wheat</td>
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<td>Barley</td>
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<td>Corn</td>
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<tr>
<td>Soybean</td>
<td>19</td>
</tr>
<tr>
<td>Wool and lamb</td>
<td>17</td>
</tr>
<tr>
<td>Pork, beef and broilers</td>
<td>4</td>
</tr>
<tr>
<td>Overall</td>
<td>19</td>
</tr>
</tbody>
</table>

Source: OECD Producer Support Estimate database
Lagging Public Perception of Modern Agriculture

• Our increasingly urban population is too many generations removed from the farm to know much about where their food comes from, but many still hold a nostalgic view of the small family farm.  
  – But this is changing....
Future U.S. Farm Policy: Forces that Could Drive Change

- Recognition that current commodity programs aren’t achieving their stated objectives
- Federal budget deficit (worse now after hurricanes)
- Agricultural solidarity fragmenting
- International pressure to shift subsidies that distort ag production and trade to non-distorting forms (direct payments & investments in public goods, e.g. research, conservation; infrastructure)
  - WTO ag trade negotiations
  - WTO cotton case
Recognition that Farm Programs Aren’t Achieving Stated Objectives

• Low farm family income
  – Most payments go to larger producers whose family incomes & wealth are well above average
  – Low income farmers receive very little from programs

• Variability of farm income
  – Farmers can buy options and can use income averaging and cash accounting

• Increase competitiveness
  – Capitalization of payments into land values raises U.S. cost of production and undercuts international competitiveness
  – Public investments in ag research declining

• Food security
  – Not a credible problem when U.S. ag grows 1/3 more than it uses domestically

• Rural development
  – Farm program payments facilitate consolidation; don’t create more jobs
Size Distribution of U.S. “Farms,” 2003

<table>
<thead>
<tr>
<th>Sales ($ thousand)</th>
<th>Thousand farms</th>
<th>% of all farms</th>
<th>% with payments</th>
<th>Ave $/ pay farm (000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;10</td>
<td>1,227</td>
<td>58</td>
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<tr>
<td>10-49</td>
<td>398</td>
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<tr>
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<td>100-249</td>
<td>165</td>
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<td>250-499</td>
<td>86</td>
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<td>34</td>
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<td>500-999</td>
<td>45</td>
<td>2</td>
<td>70</td>
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<td>&gt;1000</td>
<td>29</td>
<td>1</td>
<td>56</td>
<td>82</td>
</tr>
<tr>
<td>All</td>
<td>2,123</td>
<td>100</td>
<td>39</td>
<td>13</td>
</tr>
</tbody>
</table>

Source: USDA Economic Research Service
Sources of operator household income by typology group, 2003

- Commercial farms
- Intermediate farms
- Rural residence farms

Average U.S. household income: $59,067

Legend:
- Total income
- Income from off-farm sources
- Income from farming

“Something Has to Be Done About the Federal Budget Deficit”

Source: Congressional Budget Office, Sept. 2004
Senate Ag Committee’s Budget Reconciliation Plan: Oct. 20, 2005

• Mandated to cut ag spending $3 billion over 5 fiscal years
  – $1.6 billion from commodity programs (with every commodity program taking a 2.5% cut)
  – $536 million from repealing Step 2 cotton payments (from 1 Aug. 2006)
  – $1.1 billion by delaying payment date of part of direct payments
  – $1.8 billion from conservation programs
  – $336 million from research

• Added $1 billion to reestablish MILC dairy program

• The originally proposed $574 million to be taken from nutrition programs was withdrawn due to political backlash.
Fragmenting of Agricultural Solidarity

• Many farm group leaders expect there will be fewer dollars for agriculture in the next farm bill.
• Large differences among program crops and regions in payments per farmer and per acre are creating “subsidy envy”
• Profitability of the 2/3 of agriculture not producing program crops is calling into question what the programs accomplish.
• Traditional solidarity among commodity groups and among commodities in general farm organizations is starting to show cracks.
  – North (corn & soybeans) vs. South (cotton & rice)
  – Fruits and vegetables vs. program crops
  – Sugar vs. everybody else
Distribution of commodity payments per harvested acre

Expenditure per harvested acre ($)
- 0-15
- 15-30
- 30-50
- > 50
- No data

Source: USDA Economic Research Service
Environmental Groups’ Role

• 1985 Farm Bill was the first in which environmental groups were a real player
  – Long-term conservation reserve
  – Conservation compliance
  – Swamp buster and sodbuster.

• Most ag budget cuts since 2002 have come out of conservation programs.

• The *Environmental Working Group* has increased transparency of who gets most farm program payments

• Mobilizing public opposition to farm subsidies

• “Doubly green”* payments (decoupled payments for conservation that fit in the “green box”) are a likely winner in the WTO ag negotiations.

*To paraphrase Gordon Conway’s *Doubly Green Revolution* book
WTO Cotton Decision

- Congress heeded Uruguay Round Ag Agreement cap on trade distorting subsidies when it wrote the 2002 Farm Bill
  - But didn’t want to come in much under that cap
  - And ignored the fact that marketing loans can work as export subsidies and depress world market prices.

- Need to change marketing loan, LDP and perhaps CCP provisions for cotton and for other program crops that have them – or risk losing them in WTO litigation and not getting anything for them (rice? corn? soybeans?).

- The fruit and vegetable production exclusion in qualifying for direct payments needs to be changed.
  - This will bring huge political opposition from fruit & vegetable growers, e.g. California and Florida.
WTO Ag Trade Negotiations: What Is Possible?

- Eliminate all forms of ag export subsidies (would require US to change food aid rules)
- Increase market access by reducing tariffs (highest the most), and if exceptions are allowed, require larger minimum market access (as percent of domestic use)
- Reduce trade-distorting domestic subsidies (i.e. those linked to production of specific commodities)
  - The US has proposed complete elimination in 3 phases over 15 years.
  - It may be possible to move counter-cyclical payments to the Blue Box?
- No limits on non-trade distorting subsidies
  - Tighten definition of what subsidies are “non-trade distorting”? 

...
2007 Ag Market Conditions

• Every farm bill is influenced disproportionately by the current economic condition in the farm sector and commodity markets at the time the bill is written.

• While one cannot predict how crop conditions here and around the globe will evolve between now and 2007, we can predict with some assurance that whatever they are will affect the content of the next farm bill.
Other Issues in 2007 Farm Bill

- Food safety and bioterrorism
- Rural development: Acknowledgment that ag commodity programs make weak rural development policy.
- Conservation programs
- Science: Implications of shifting investments in ag research from public to private sector are being recognized.
- Food aid: When is it an export subsidy?
- Future role of ethanol and bio-diesel in U.S. energy policy
- Crop insurance: Would Congress keep hands off to allow an actuarially viable approach to function?
- Could gross revenue insurance replace disaster payments, crop insurance, marketing loans, LDPs, and CCPs?
Prospects for 2007 Farm Bill

• Most likely outcome in 2007 Farm Bill is only modest changes from 2002 Farm Bill
• BUT, there are just enough forces for change that you should be prepared that bigger change is possible
  – Federal budget deficit
  – WTO trade negotiations
  – Public perception that farm programs are not achieving their objectives
• The most-discussed alternatives are
  – Some forms of subsidized gross income insurance
  – Payments for conservation or environmental services
  – Rural infrastructure investments
RISING INPUT COSTS: IMPLICATIONS FOR CROP ROTATIONS AND CASH RENT LEVELS

Gary Schnitkey
Purpose/Outline

Rising cost impacts:

- Crop rotations: Recent cost increases favors soybeans versus corn
- Rising costs and cash rents in perspective

Use historic FBFM data and projections to examine issues
Cost Categories

1. **Direct** – fertilizer, pesticides, seed, drying, storage, crop insurance

2. **Power** – machine hire, utilities, repair, fuel, light vehicle, machine depreciation

3. **Overhead** – hired labor, building repair and rent, building depreciation, insurance, misc., interest

4. **Land** – vary by tenure (e.g., rent for cash rented land, interest payments for owned land)
Costs

- Financial costs (accrued to current year)
- Depreciation (economic not tax)
- No opportunity charges for operator labor and equity capital
- Historic costs from Illinois FBFM
Operator and Land Return

Return remaining to:

1. Pay for farmland *(e.g., cash rent)*
2. Provide operator funds for unpaid labor, equity, and management

$170 operator and land return
- $150 cash rent
  
  $20 return for operator
## 2006 Projected Revenue and Costs Per Acre

<table>
<thead>
<tr>
<th></th>
<th>Northern</th>
<th>Central</th>
<th>Southern</th>
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<tbody>
<tr>
<td>Total revenue</td>
<td>$391</td>
<td>$401</td>
<td>$321</td>
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<tr>
<td>Direct</td>
<td>$151</td>
<td>$138</td>
<td>$136</td>
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<tr>
<td>Power</td>
<td>70</td>
<td>61</td>
<td>67</td>
</tr>
<tr>
<td>Overhead</td>
<td>42</td>
<td>37</td>
<td>37</td>
</tr>
<tr>
<td>Non-land cost</td>
<td>$263</td>
<td>$236</td>
<td>$240</td>
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<tr>
<td>Oper. and land return</td>
<td>$128</td>
<td>$165</td>
<td>$81</td>
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<tr>
<td>less cash rent</td>
<td>$140</td>
<td>$148</td>
<td>$100</td>
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<tr>
<td>Operator return</td>
<td>-$12</td>
<td>$18</td>
<td>-$19</td>
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Crop Rotations

• Since 1998, Illinois farmers have been shifting soybean acres to corn acres

• Cost increases impact corn more than soybeans

Cost increases since 2002 in Illinois
$35 per acre for corn
$11 per acre for soybeans

• Will a shift back to soybeans occur?
Corn-Soybean Ratio Varies Within Illinois

Corn Divided by Soybean Acres

- **North**: 2000 (dark blue), 2002 (light blue), 2004 (light blue)
- **Central Region**: 2000 (dark blue), 2002 (light blue), 2004 (light blue)
- **South**: 2000 (dark blue), 2002 (light blue), 2004 (light blue)
Corn-Soybean Returns
Northern Illinois
### Per Acres Costs, Northern Illinois

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Fertilizer</td>
<td>$51</td>
<td>$77</td>
<td>$18</td>
<td>$23</td>
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<tr>
<td>Pesticides</td>
<td>34</td>
<td>41</td>
<td>30</td>
<td>29</td>
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<tr>
<td>Seed</td>
<td>35</td>
<td>41</td>
<td>24</td>
<td>31</td>
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<tr>
<td>Other direct</td>
<td>21</td>
<td>24</td>
<td>8</td>
<td>15</td>
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<tr>
<td><strong>Total direct</strong></td>
<td><strong>$141</strong></td>
<td><strong>$183</strong></td>
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<tr>
<td>Total power</td>
<td>77</td>
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<tr>
<td>Total overhead</td>
<td>41</td>
<td>42</td>
<td>39</td>
<td>41</td>
</tr>
<tr>
<td><strong>Total non-land</strong></td>
<td><strong>$259</strong></td>
<td><strong>$305</strong></td>
<td><strong>$179</strong></td>
<td><strong>$201</strong></td>
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</table>
## Per Acre Corn Revenue **,**
### Northern Illinois

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2004</th>
<th>2005P</th>
<th>2006F</th>
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</thead>
<tbody>
<tr>
<td><strong>Yield</strong></td>
<td>174</td>
<td>185</td>
<td>130</td>
<td>164</td>
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<tr>
<td><strong>Price</strong></td>
<td>$2.45</td>
<td>$2.05</td>
<td>$1.80</td>
<td>$2.25</td>
</tr>
<tr>
<td><strong>LDP/bu</strong></td>
<td>.00</td>
<td>.26</td>
<td>.35</td>
<td>.00</td>
</tr>
<tr>
<td><strong>Crop/LDP rev</strong></td>
<td>$426</td>
<td>$427</td>
<td>$280</td>
<td>$369</td>
</tr>
<tr>
<td><strong>DP and CCP</strong></td>
<td>22</td>
<td>41</td>
<td>49</td>
<td>29</td>
</tr>
<tr>
<td><strong>Crop insurance</strong></td>
<td>1</td>
<td>8</td>
<td>25</td>
<td>1</td>
</tr>
<tr>
<td><strong>Gross revenue</strong></td>
<td>$449</td>
<td>$476</td>
<td>$354</td>
<td>$399</td>
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</table>

** blended over corn-after-soybeans and corn-after-corn
## Per Acre Soybean Revenue, Northern Illinois

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2004</th>
<th>2005P</th>
<th>2006F</th>
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</thead>
<tbody>
<tr>
<td><strong>Yield</strong></td>
<td>35</td>
<td>52</td>
<td>47</td>
<td>47</td>
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<tr>
<td><strong>Price</strong></td>
<td>$7.49</td>
<td>$5.40</td>
<td>$5.50</td>
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<tr>
<td><strong>LDP/bu</strong></td>
<td>.00</td>
<td>.11</td>
<td>.00</td>
<td>.00</td>
</tr>
<tr>
<td><strong>Crop/LDP rev</strong></td>
<td>$262</td>
<td>$287</td>
<td>$259</td>
<td>$273</td>
</tr>
<tr>
<td><strong>DP and CCP</strong></td>
<td>22</td>
<td>41</td>
<td>49</td>
<td>29</td>
</tr>
<tr>
<td><strong>Crop insurance</strong></td>
<td>22</td>
<td>11</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td><strong>Gross revenue</strong></td>
<td>$303</td>
<td>$339</td>
<td>$318</td>
<td>$303</td>
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</tbody>
</table>
## Per Acre Operator and Land Returns, Northern Illinois

<table>
<thead>
<tr>
<th>Year</th>
<th>Corn</th>
<th>Soybeans</th>
<th>Corn - Beans</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>$148</td>
<td>$123</td>
<td>$26</td>
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<tr>
<td>2001</td>
<td>136</td>
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<tr>
<td>2002</td>
<td>130</td>
<td>113</td>
<td>17</td>
</tr>
<tr>
<td>2003</td>
<td>193</td>
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<td>2004</td>
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<tr>
<td>2006F</td>
<td>94</td>
<td>102</td>
<td>-8</td>
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### 2006 Crop Budgets, Northern Illinois

<table>
<thead>
<tr>
<th></th>
<th>Corn-</th>
<th>Corn-</th>
<th>Soybeans</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>after-Soybeans</td>
<td>after-Corn</td>
<td></td>
</tr>
<tr>
<td><strong>Yield</strong></td>
<td>169 bu</td>
<td>157 bu.</td>
<td>47 bu.</td>
</tr>
<tr>
<td><strong>Price</strong></td>
<td>$2.25</td>
<td>$2.25</td>
<td>$5.80</td>
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<tr>
<td>**Revenue *</td>
<td>$410</td>
<td>$383</td>
<td>$303</td>
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<tr>
<td><strong>Non-land costs</strong></td>
<td>298</td>
<td>312</td>
<td>201</td>
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<tr>
<td><strong>Operator &amp; land return</strong></td>
<td>$112</td>
<td>$71</td>
<td>$102</td>
</tr>
</tbody>
</table>

* Includes crop revenue, direct and counter-cyclical payments
Corn/Soybean Returns
Central Illinois
High-Productivity Farmland
## Per Acres Costs, Central Illinois

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Fertilizer</strong></td>
<td>$55</td>
<td>$79</td>
<td>$20</td>
<td>$24</td>
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<tr>
<td><strong>Pesticides</strong></td>
<td>34</td>
<td>39</td>
<td>31</td>
<td>28</td>
</tr>
<tr>
<td><strong>Seed</strong></td>
<td>34</td>
<td>40</td>
<td>24</td>
<td>30</td>
</tr>
<tr>
<td><strong>Other direct</strong></td>
<td>23</td>
<td>23</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td><strong>Total direct</strong></td>
<td>$146</td>
<td>$181</td>
<td>$83</td>
<td>$93</td>
</tr>
<tr>
<td><strong>Total power</strong></td>
<td>68</td>
<td>67</td>
<td>54</td>
<td>55</td>
</tr>
<tr>
<td><strong>Total overhead</strong></td>
<td>39</td>
<td>39</td>
<td>38</td>
<td>38</td>
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<tr>
<td><strong>Total non-land</strong></td>
<td>$253</td>
<td>$287</td>
<td>$175</td>
<td>$186</td>
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## Per Acre Corn Revenue ***,
Central Illinois

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2004</th>
<th>2005P</th>
<th>2006F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Yield</strong></td>
<td>186</td>
<td>190</td>
<td>157</td>
<td>175</td>
</tr>
<tr>
<td><strong>Price</strong></td>
<td>$2.41</td>
<td>$2.10</td>
<td>$1.80</td>
<td>$2.25</td>
</tr>
<tr>
<td><strong>LDP/bu</strong></td>
<td>.00</td>
<td>.26</td>
<td>.35</td>
<td>.00</td>
</tr>
<tr>
<td><strong>Crop/LDP rev</strong></td>
<td>$448</td>
<td>$448</td>
<td>$338</td>
<td>$394</td>
</tr>
<tr>
<td><strong>DP and CCP</strong></td>
<td>22</td>
<td>40</td>
<td>45</td>
<td>27</td>
</tr>
<tr>
<td><strong>Crop insurance</strong></td>
<td>1</td>
<td>8</td>
<td>25</td>
<td>1</td>
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<tr>
<td>Gross revenue</td>
<td>$471</td>
<td>$493</td>
<td>$390</td>
<td>$422</td>
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</table>

*** blended over corn-after-soybeans and corn-after-corn
## Per Acre Soybean Revenue, Central Illinois

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2004</th>
<th>2005P</th>
<th>2006F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Yield</strong></td>
<td>41</td>
<td>56</td>
<td>40</td>
<td>51</td>
</tr>
<tr>
<td><strong>Price</strong></td>
<td>$7.39</td>
<td>$5.45</td>
<td>$5.50</td>
<td>$5.80</td>
</tr>
<tr>
<td><strong>LDP/bu</strong></td>
<td>.00</td>
<td>.11</td>
<td>.00</td>
<td>.00</td>
</tr>
<tr>
<td><strong>Crop/LDP rev</strong></td>
<td>$303</td>
<td>$305</td>
<td>$275</td>
<td>$296</td>
</tr>
<tr>
<td><strong>DP and CCP</strong></td>
<td>22</td>
<td>40</td>
<td>45</td>
<td>27</td>
</tr>
<tr>
<td><strong>Crop insurance</strong></td>
<td>9</td>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Gross revenue</strong></td>
<td>$334</td>
<td>$355</td>
<td>$321</td>
<td>$324</td>
</tr>
</tbody>
</table>
## Per Acre Operator and Land Returns, Central Illinois

<table>
<thead>
<tr>
<th>Year</th>
<th>Corn</th>
<th>Soybeans</th>
<th>Corn - Beans</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>$171</td>
<td>$144</td>
<td>$27</td>
</tr>
<tr>
<td>2001</td>
<td>160</td>
<td>153</td>
<td>8</td>
</tr>
<tr>
<td>2002</td>
<td>135</td>
<td>146</td>
<td>-11</td>
</tr>
<tr>
<td>2003</td>
<td>220</td>
<td>167</td>
<td>53</td>
</tr>
<tr>
<td>2004</td>
<td>226</td>
<td>179</td>
<td>47</td>
</tr>
<tr>
<td>2005P</td>
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<tr>
<td>2006F</td>
<td>135</td>
<td>138</td>
<td>-3</td>
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</table>
**2006 Crop Budgets, Central Illinois**

<table>
<thead>
<tr>
<th></th>
<th>Corn-after-Soybeans</th>
<th>Corn-after-Corn</th>
<th>Soybeans</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Yield</strong></td>
<td>180 bu</td>
<td>168 bu</td>
<td>51 bu</td>
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<tr>
<td><strong>Price</strong></td>
<td>$2.25</td>
<td>$2.25</td>
<td>$5.80</td>
</tr>
<tr>
<td>**Revenue *</td>
<td>$433</td>
<td>$406</td>
<td>$324</td>
</tr>
<tr>
<td><strong>Non-land costs</strong></td>
<td>280</td>
<td>294</td>
<td>186</td>
</tr>
<tr>
<td><strong>Operator &amp; land return</strong></td>
<td>$153</td>
<td>$112</td>
<td>$138</td>
</tr>
</tbody>
</table>

* Includes crop revenue, direct and counter-cyclical payments
Corn/Soybean/Wheat Returns
Southern Illinois
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fertilizer</td>
<td>$54</td>
<td>$75</td>
<td>$20</td>
<td>$24</td>
</tr>
<tr>
<td>Pesticides</td>
<td>31</td>
<td>33</td>
<td>27</td>
<td>29</td>
</tr>
<tr>
<td>Seed</td>
<td>35</td>
<td>43</td>
<td>23</td>
<td>30</td>
</tr>
<tr>
<td>Other direct</td>
<td>13</td>
<td>14</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td><strong>Total direct</strong></td>
<td><strong>$133</strong></td>
<td><strong>$164</strong></td>
<td><strong>$75</strong></td>
<td><strong>$96</strong></td>
</tr>
<tr>
<td>Total power</td>
<td>73</td>
<td>70</td>
<td>58</td>
<td>61</td>
</tr>
<tr>
<td>Total overhead</td>
<td>36</td>
<td>40</td>
<td>34</td>
<td>39</td>
</tr>
<tr>
<td><strong>Total non-land</strong></td>
<td><strong>$242</strong></td>
<td><strong>$274</strong></td>
<td><strong>$167</strong></td>
<td><strong>$196</strong></td>
</tr>
</tbody>
</table>

Per Acres Costs, Southern Illinois
### Per Acre Corn Revenue **, Southern Illinois

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2004</th>
<th>2005P</th>
<th>2006F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Yield</strong></td>
<td>134</td>
<td>170</td>
<td>130</td>
<td>136</td>
</tr>
<tr>
<td><strong>Price</strong></td>
<td>$2.54</td>
<td>$2.15</td>
<td>$1.80</td>
<td>$2.25</td>
</tr>
<tr>
<td>LDP/bu</td>
<td>.00</td>
<td>.26</td>
<td>.35</td>
<td>.00</td>
</tr>
<tr>
<td><strong>Crop/LDP rev</strong></td>
<td>$340</td>
<td>$410</td>
<td>$280</td>
<td>$306</td>
</tr>
<tr>
<td>DP and CCP</td>
<td>16</td>
<td>26</td>
<td>30</td>
<td>19</td>
</tr>
<tr>
<td><strong>Crop insurance</strong></td>
<td>13</td>
<td>5</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td><strong>Gross revenue</strong></td>
<td>$369</td>
<td>$441</td>
<td>$313</td>
<td>$326</td>
</tr>
</tbody>
</table>

**b**lended over corn-after-soybeans and corn-after-corn
## Per Acre Soybean Revenue, Southern Illinois

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2004</th>
<th>2005P</th>
<th>2006F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Yield</strong></td>
<td>39</td>
<td>50</td>
<td>42</td>
<td>43</td>
</tr>
<tr>
<td><strong>Price</strong></td>
<td>$7.39</td>
<td>$5.55</td>
<td>$5.50</td>
<td>$5.80</td>
</tr>
<tr>
<td>LDP/bu</td>
<td>.00</td>
<td>.11</td>
<td>.00</td>
<td>.00</td>
</tr>
<tr>
<td><strong>Crop/LDP rev</strong></td>
<td>$288</td>
<td>$278</td>
<td>$231</td>
<td>$249</td>
</tr>
<tr>
<td>DP and CCP</td>
<td>16</td>
<td>26</td>
<td>30</td>
<td>19</td>
</tr>
<tr>
<td>Crop insurance</td>
<td>6</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Gross revenue</strong></td>
<td>$310</td>
<td>$313</td>
<td>$262</td>
<td>$269</td>
</tr>
</tbody>
</table>
## Per Acre Operator and Land Returns, Southern Illinois

<table>
<thead>
<tr>
<th>Year</th>
<th>Corn</th>
<th>Soybeans</th>
<th>Corn - Beans</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>$133</td>
<td>$113</td>
<td>$21</td>
</tr>
<tr>
<td>2001</td>
<td>104</td>
<td>102</td>
<td>2</td>
</tr>
<tr>
<td>2002</td>
<td>14</td>
<td>51</td>
<td>-38</td>
</tr>
<tr>
<td>2003</td>
<td>134</td>
<td>143</td>
<td>-9</td>
</tr>
<tr>
<td>2004</td>
<td>185</td>
<td>136</td>
<td>49</td>
</tr>
<tr>
<td>2005P</td>
<td>48</td>
<td>72</td>
<td>-24</td>
</tr>
<tr>
<td>2006F</td>
<td>52</td>
<td>73</td>
<td>-21</td>
</tr>
</tbody>
</table>
## 2006 Crop Budgets, Southern Illinois

<table>
<thead>
<tr>
<th></th>
<th>Corn</th>
<th>Soybeans</th>
<th>Wheat</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Yield</strong></td>
<td>136 bu</td>
<td>43 bu</td>
<td>51 bu</td>
</tr>
<tr>
<td><strong>Price</strong></td>
<td>$2.25</td>
<td>$5.80</td>
<td>$3.20</td>
</tr>
<tr>
<td><strong>Revenue</strong> *</td>
<td>$326</td>
<td>$269</td>
<td>$240</td>
</tr>
<tr>
<td><strong>Non-land costs</strong></td>
<td>274</td>
<td>196</td>
<td>160</td>
</tr>
<tr>
<td><strong>Operator &amp; land return</strong></td>
<td>$52</td>
<td>$73</td>
<td>$80</td>
</tr>
</tbody>
</table>

* Includes crop revenue, direct and counter-cyclical payments
Crop Rotations

• Recent cost increases reduce profitability of corn production relative to soybean production

• Suggest switching to more soybeans

• Some risks to move (soybean rust)
Rising Costs and Cash Rents

- Average returns and costs blended over corn, soybeans, wheat, and other crop acres.
- Between 1995 through 2002, non-land costs increased an average of $1.43 per acre.
- Between 2002 and 2006P, non-land costs increased an average of $6.50 per acre.
- Revenue has not exhibited a trend.
Revenue and Costs, Illinois, 1995-2006

Gross Revenue

Non-Land Costs

$ per Acre

Year

95 96 97 98 99 00 01 02 03 04 05P 06F

$350
Per Acre Costs, 1995 through 2006, Illinois

Year

$ per Acre

Direct

Power

Overhead
Per Acre Direct Costs, Illinois

Fertilizer

Seed

Pesticides

Drying/Storage

Year

$ per Acre
Change in Per Acre Costs Between 2002 and 2006P, Illinois

![Bar chart showing the change in per acre costs for Fertilizer, Seed, and Fuel & Oil categories between 2002 and 2006. The chart indicates a significant increase in costs for Fertilizer, while costs for Seed and Fuel & Oil have seen a smaller increase.](image-url)
Change in Per Acre Costs, 2002 and 2006P, Illinois

- Fertilizer: $18
- Cash rent: $12
- Seed: $7
- Fuel: $5
- Pesticides: $2

Fertilizer and fuel account for $23 of the total cost increase, but energy prices may decline in the future.

Cash rent, seed, and pesticides account for $21 of the increase, not likely to decline.
Points

- Energy related costs (fertilizer and fuel) may come down in future
- Technology related costs likely will not
- Cash rent levels are closing the gap between operator and land returns.
Operator and Land Return Compared to Cash Rent, Northern Illinois

![Graph showing Operator and Land Return compared to Cash Rent from 1995 to 2006. The graph indicates the trend of Operator and Land Return increasing compared to Cash Rent, which shows a consistent increase over the years.]
Operator and Land Return Compared to Cash Rent, Central Illinois

Operator and Land Return

Cash Rent

$ per Acre

Year
Operator and Land Return Compared to Cash Rent, Southern Illinois

![Graph showing Operator and Land Return Compared to Cash Rent over years from 1995 to 2006.](image-url)
Cash Rent Points

• Many cash rents above those shown
• Some farms have above/below the operator and land returns shown above
• It is hard to justify “high” cash rents from a return/cost perspective. Have to justify for other reasons (i.e., growth, machinery/labor efficiencies)
Cash Rent Points

• The narrowing of the gap between return and rent **will** stop some day (the question is when)

• May occur when some farmers have difficulty in paying high cash rents. This is likely a few years away because of solid financial position of many farmers
Conclusion

• 2006 could be an above average year if yields are above average

• However, starting at a lower “expected” level due to cost increases

• Suggests some caution in spending
The Nitty-Gritty of Calculating Your Production Costs

by Dale Lattz and Gary Schnitkey
Topics

1. Concepts for calculating costs
   • Benefits of knowing your cost of production
   • Averages from FBFM
   • Basis for calculating costs
   • Procedures for allocating costs

2. Demonstration of enterprise allocation spreadsheet

3. Summary of FBFM farms allocating costs
Benefits

1. Useful in budgeting/planning
2. Close control loop
3. Less reliance on farm averages
4. Better information
5. Identify strengths and weaknesses
6. Marketing targets
7. Site specific farming
1. Useful in budgeting/planning

- Complete cash flow and budgets
2. Close control loop

- Many farmers do projected cash flows and budgets

- Need to compare projections to actual results to control business
3. Less reliance on averages

Costs on farms vary


<table>
<thead>
<tr>
<th></th>
<th>Low 1/3</th>
<th>Average</th>
<th>High 1/3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total costs</td>
<td>$432</td>
<td>$390</td>
<td>$372</td>
</tr>
</tbody>
</table>
4. Better information

- Land purchases
- Land rental decisions
- Expand/quit livestock enterprises
- Crop rotations
- Machinery purchases
5. Identify strengths and weaknesses

• Comparisons to budgets

• Comparisons to benchmarks
Benefits

6. Marketing targets
   -- direct costs
   -- total costs
   -- profit level

7. Site specific farming
   -- need cost data to use this data
Per Acre Budgeted Values
From FBFM
Actual and Projected Costs, FBFM, Central Illinois Farms

**Total Non-land costs**

<table>
<thead>
<tr>
<th>Year</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn</td>
<td>$252</td>
<td>$260</td>
<td>$253</td>
<td>$251</td>
<td>$267</td>
<td>$278</td>
</tr>
<tr>
<td>Soybean</td>
<td>$183</td>
<td>$180</td>
<td>$175</td>
<td>$167</td>
<td>$176</td>
<td>$181</td>
</tr>
</tbody>
</table>
Expense Adjustments

• Note dramatic increase in costs since 2002

• Much of the increase in “energy” related costs

• Seed costs also have increased
### Anhydrous Ammonia Prices, April

<table>
<thead>
<tr>
<th>Year</th>
<th>Per ton</th>
<th>Per Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>$211</td>
<td>$19</td>
</tr>
<tr>
<td>2000</td>
<td>$231</td>
<td>$21</td>
</tr>
<tr>
<td>2001</td>
<td>$408</td>
<td>$37</td>
</tr>
<tr>
<td>2002</td>
<td>$232</td>
<td>$21</td>
</tr>
<tr>
<td>2003</td>
<td>$368</td>
<td>$34</td>
</tr>
<tr>
<td>2004</td>
<td>$387</td>
<td>$35</td>
</tr>
<tr>
<td>2005</td>
<td>$429</td>
<td>$39</td>
</tr>
</tbody>
</table>

Source: U.S.D.A.

Per acre based on 150 lbs actual N applied
Adjustments

- Soybeans for corn (?)
- N rates
- "Higher" priced inputs
- Leasing terms
## Corn Returns - Soybean Returns

<table>
<thead>
<tr>
<th>Year</th>
<th>North</th>
<th>Central</th>
<th>South</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>$35</td>
<td>$35</td>
<td>$25</td>
</tr>
<tr>
<td>2001</td>
<td>11</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>2002</td>
<td>27</td>
<td>-10</td>
<td>-22</td>
</tr>
<tr>
<td>2003</td>
<td>84</td>
<td>68</td>
<td>-9</td>
</tr>
<tr>
<td>2004</td>
<td>40</td>
<td>45</td>
<td>50</td>
</tr>
<tr>
<td>2005F</td>
<td>-79</td>
<td>-35</td>
<td>-27</td>
</tr>
<tr>
<td>2006P</td>
<td>-11</td>
<td>-4</td>
<td>-22</td>
</tr>
</tbody>
</table>
Difficulties in Calculating Production Costs

• More than one enterprise
• Difficulty in allocating costs to more than one enterprise
• Difficulties in allocating overhead costs
• Requires detailed accounting records
• Uncertainties
Basis for Calculating Costs
Basis

Important for comparability

Across years -- should be consistent
Across farms -- should be consistent if you want correct comparisons

Need to know when looking at costs in press
Common Basis for Cost Calculation

1. **Cash flow**
   - Analyzes sources of cash flow
   - Useful for looking at cash flow position
   - Should not be used to analyze profitability
   - Includes IT and LT principal payments, unfinanced capital purchases, and family living withdrawals
Common Basis for Cost Calculation

2. Financial
   • Returns and costs based on accrual accounting method
   • No charges for unpaid labor or equity capital
   • Includes depreciation
Common Basis for Cost Calculation

3. Economic

• Useful for making comparisons across farms
• Useful for analyzing long-run investment decisions
• Includes opportunity costs for capital and operator labor
Procedures for Allocating Costs
Procedures

1. Starting point
2. Determine enterprises
3. Unit of comparisons
4. Period of analysis
5. Adjustments
6. Allocating costs
1. Starting point

- Total costs in categories for a year

Examples:

-- Computer records
-- Paper accounting system
-- Schedule F

<table>
<thead>
<tr>
<th>CASH FARM OPERATING EXPENSE TOTALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Page LN-3</td>
</tr>
<tr>
<td>123</td>
</tr>
<tr>
<td>490</td>
</tr>
<tr>
<td>Crop Sales Deductions - Pg. C-1</td>
</tr>
<tr>
<td>Cash Reimbursements - Pg. R-1</td>
</tr>
<tr>
<td>Re: ACCOUNT TOTAL</td>
</tr>
</tbody>
</table>
2. Determine enterprises

**Tradeoff:**

<table>
<thead>
<tr>
<th>Detail</th>
<th>versus</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usefulness (?)</td>
<td></td>
<td>Effort</td>
</tr>
</tbody>
</table>

**Examples:**
- Corn
- Soybeans
- Custom work
- Corn -- farm 1
- Corn -- farm 2
3. Unit of comparison

Examples:

Crops:
  Total, Per tillable acre, Per operator acre, per bu.

Livestock:
  Total, Per pig sold, Per cwt. sold

Custom work/farming:
  Total
3. Unit of comparison

Operator acre.

Weights acres by share of revenue.

Why? Places costs on standard basis across rental arrangements.
Operator acre

1 owned or cash rent acre = 1 operator acre
1 share rent acre (50%) = .5 operator acre

<table>
<thead>
<tr>
<th>Owned or Cash rent</th>
<th>Share Rent</th>
<th>Operator Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,000</td>
<td></td>
<td>1,000</td>
</tr>
<tr>
<td></td>
<td>1,000</td>
<td>500</td>
</tr>
</tbody>
</table>
4. Period of analysis

For crops, usually one year
5. Adjustments

- Cash settlements -- share-rent landlord costs (e.g., farmer pays $1,000 for seed but share-rent landlord pays his share of $500, need to reduce seed expense by $500)
5. Adjustments

• Accounts payable -- Costs already incurred but not paid for

• Prepaid expense -- Items paid for but related to next year’s production (e.g., Apply and pay for 2006 fertilizer in 2005)
5. Adjustments

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Interest</td>
<td>15045</td>
<td>1850</td>
<td>3550</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Labor</td>
<td>12927</td>
<td>1000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>13927</td>
</tr>
<tr>
<td>Pesticides</td>
<td>22431</td>
<td></td>
<td>6500</td>
<td>9250</td>
<td></td>
<td></td>
<td>19681</td>
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<tr>
<td>N fertilizer</td>
<td>9062</td>
<td></td>
<td>4500</td>
<td>6500</td>
<td></td>
<td></td>
<td>7062</td>
</tr>
<tr>
<td>Other fertilizer</td>
<td>12700</td>
<td></td>
<td>10500</td>
<td>7500</td>
<td></td>
<td></td>
<td>15700</td>
</tr>
<tr>
<td>Seed</td>
<td>20712</td>
<td></td>
<td>7500</td>
<td>11750</td>
<td></td>
<td></td>
<td>16462</td>
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<td>7855</td>
</tr>
<tr>
<td>Drying</td>
<td>4637</td>
<td>1500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3137</td>
</tr>
<tr>
<td>Storage</td>
<td>3686</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3686</td>
</tr>
<tr>
<td>Machine repair</td>
<td>14548</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>14548</td>
</tr>
<tr>
<td>Fuel</td>
<td>8790</td>
<td>1000</td>
<td>1000</td>
<td></td>
<td></td>
<td></td>
<td>8790</td>
</tr>
</tbody>
</table>
6. Allocate costs

Methods:

1. Direct -- know the cost for each category (e.g., fertilizer expense to corn)

2. Indirect -- can not directly allocate costs. Need to use some allocation method (e.g., machinery and overhead expenses)
Suggested indirect allocation methods for crops

1. Per tillable acre -- machinery expenses
2. Per operator acre -- perhaps for overhead expenses
3. Budget -- based on estimated percentages from Illinois crop budgets
4. Percent of total revenue
5. Percent of direct expenses
Demonstration of Enterprise Allocation and Analysis Spreadsheet
Cost Allocation Spreadsheet

Available at farmdoc

www.farmdoc.uiuc.edu

(in FAST tools section)
FBFM Farms Allocating Costs

• Data from 1997 through 2003

  (www.farmdoc.uiuc.edu/manage/newsletters/fefo05_01/fefo05_01.html)
Questions Examined

• Do farms have differences in corn and soybean returns?

• What causes differences?

• Evaluated by examining “corn returns minus soybean returns”
# Corn Minus Soybean Returns by Year

<table>
<thead>
<tr>
<th>Year</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>-$54</td>
</tr>
<tr>
<td>1998</td>
<td>-$22</td>
</tr>
<tr>
<td>1999</td>
<td>-$12</td>
</tr>
<tr>
<td>2000</td>
<td>-$4</td>
</tr>
<tr>
<td>2001</td>
<td>-$13</td>
</tr>
<tr>
<td>2002</td>
<td>$4</td>
</tr>
<tr>
<td>2003</td>
<td>$40</td>
</tr>
</tbody>
</table>
### Distribution of Corn Minus Soybean Returns

<table>
<thead>
<tr>
<th>Range</th>
<th>2000</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; -$100</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>-$100 to -$50</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>-$50 to $0</td>
<td>32</td>
<td>15</td>
</tr>
<tr>
<td>$0 to $50</td>
<td>42</td>
<td>23</td>
</tr>
<tr>
<td>$50 to $100</td>
<td>10</td>
<td>33</td>
</tr>
<tr>
<td>&gt; $100</td>
<td>2</td>
<td>17</td>
</tr>
</tbody>
</table>
Factors Causing Differences

• Divide into three group: high soybean profits, mid, high corn profits

• Examine factors across groups
# Differences Between Groups

<table>
<thead>
<tr>
<th></th>
<th>High Soybeans</th>
<th>Mid</th>
<th>High Corn</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPR</td>
<td>81</td>
<td>83</td>
<td>84</td>
</tr>
<tr>
<td>Tillable acres</td>
<td>940</td>
<td>990</td>
<td>934</td>
</tr>
<tr>
<td>Corn yield</td>
<td>146</td>
<td>157</td>
<td>162</td>
</tr>
<tr>
<td>Soybean yield</td>
<td>49</td>
<td>48</td>
<td>46</td>
</tr>
<tr>
<td>Corn crop costs</td>
<td>$151</td>
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Summary

• Between 1997 and 2003, corn returns increased relative to soybean returns

• Higher productivity farmland favors corn production

• Some farmers may be better corn producers than soybean producers and vice versa. One year of results is insufficient to know.
Summary

• Spreadsheet allows for easy comparisons

• Differences exist across farms
Financial Planning and Cash Flow Budgeting for 2006

Hands-on Applications

By Paul Ellinger and Bruce Sherrick
Outline

- FAST Tools overview
- Benefits of financial planning
- Components of financial plan
- Getting organized
- Hands-on applications
  - Appraisal financial condition
  - Monthly cash flow planning
  - Quick cash flow
FAST Tools

- **farmdoc** companion project initiated in 1999

- Development of spreadsheet-based tools to aid decisions for producers, lenders, consultants and investors

- Facilitate use, access, distribution of tools and resources through CD and internet distribution
  - Quarterly subscription
  - farmdoc download
  - via workshops

- Approximately 30,000 CDs produced and another 25,000 downloads

- Increased demand for education and training
Financial Analysis

Assist in preparing and interpreting financial information and measuring financial health

- Appraisal of current financial position
- Balance sheet
- Ratio calculator
- Cash flow planning
- Quick cash flow planning (new)
- Farm financial simulation – 4 year plan (new in 2006)
- Cash to accrual income approximation
- Estimates of deferred taxes
- Repayment capacity analysis
- Net worth allocation
Investment Analysis

Assist in measuring the economic returns and performance of alternative types of investments.

- Capital budgeting
- Grain bin analysis
- Land purchase analysis
- Lease versus purchase
- Machinery financing
- MACRS calculator
- Savings calculator
- Time value of money calculator
Loan Analysis

Assist in calculating loan payments and schedules; comparing alternative loans; and measuring the sensitivity of payments to changes in loan parameters

- Loan amortization
- Loan comparison
- Revolving loan calculator
Farm Management

Assist in developing enterprise budgets and breakeven levels; estimating costs of machinery operations; and comparing crop insurance and farmland leasing alternatives

- Break even analysis
- Crop budgeting tool
- Crop insurance calculator
- Crop rotation tool
- Enterprise allocation and analysis
- Farmland lease analysis
- Machinery economics
Grain Marketing and Management

Assist in tracking grain inventory and estimating the costs and returns of grain storage and delivery

- Crop storage analysis
- Grain delivery model
- Grain inventory management
- Grain pricing model
Risk Management

Assist in evaluating the impact of farmland lease types as well as marketing and crop insurance strategies on revenue and income distributions.

- Farm rent evaluator
- Marketing and crop insurance risk model
- Crop insurance payment calculator
Yield Database Utilities

Assist in analyzing county-level historical crop yields and with common computations related to soil productivity measures and yield predictions

- Illinois, Iowa, Indiana crop yield databases
- Illinois soil productivity index utilities
Why Budget?

- Decision analysis benchmarks
  - Cost control
  - Marketing
  - Identify opportunities
  - Contingency planning
  - Meet financial goals – discipline
  - Managing cash surplus/deficits profitably

- Organization
- Communication
- Monitor performance
- And ... my lender wanted one
Desired Components of a Financial Plan

• Focus on projected **profitability** of a plan – not just cash flow
  - What do we need to break even?
  - What cushion do we have to meet debt payments?

• Sensitivity analysis (stress testing)
  - Prices
  - Production
  - Costs
  - Interest rates

• Basis of comparison and validation
  - Benchmarks
  - Previous year comparison
  - Comparison to actual
Getting Organized

• Synchronize cash, loan, and inventory balances

• Total cash expenses for 2005

• Current inventories
  – Units and price

• Status of government payments
  – Due from 2005 crop – see worksheet

• Balance and payment schedules for loans
  – Interest owed at end of year
  – Scheduled payments

• Items prepaid for 2006 crop and payable for 2005 crop at the end of the year
Getting Organized, continued

- Enterprise cropping plan
  - acres
  - share of acres
  - lease type and share
  - expected production
  - government payments
  - costs per acre

- Crop insurance protection
  - Level of yield or revenue protection

- Livestock plan
  - Expected production
  - Expected sales and purchase price
  - Feed costs
  - Other livestock expenses
Getting Organized, continued

- Planned capital purchases
  - Expected level and cost of financing

- Nonfarm sources and uses of cash
  - Wages
  - Business income/expenses
  - Family withdrawals

- Before visiting lender
  - Check if lender is using suggested commodity prices
  - View Consumer Credit Report: See handout
farmdoc Resources

- Planned per-acre budget expenses for 2006
  - Northern Illinois
  - Central Illinois – Low and High Productivity
  - Southern Illinois

- County yields
  - Expected levels
  - Risk parameters
    - 25% = One in four-year low yield
    - 10% = One in ten-year low yield
    - 5% = One in twenty-year low yield

See Handouts
Cash Flow Planning

- Appraisal current financial position
  - Overview of potential operating loan needs of a farm business

- Monthly Cash Flow
  - Detailed monthly cash flow and profitability model

- Quick Cash Flow - new
  - Quarterly cash flow plan
  - Built-in budgets and yield risk parameters
  - Assessment of break-even yields/prices
FAST Hands-on Computer Workshops
January - March

- Basic financial management
  - Preparing financial statements
  - Cash flow projections

- Extended financial management
  - Understanding your financial health
  - Ratio analysis and benchmarking your farm
  - Longer-term financial analysis

- Crop insurance and marketing

Visit www.farmdoc.uiuc.edu for current workshop schedule
Illinois’ Big Ten Issues in Law & Taxation

By Don Uchtmann, Bryan Endres & Gary Hoff
Part of farmdoc’s Farm Income 2006 seminars
Issue 1: Eminent Domain

• Definition:
  – The power of the government to condemn private land for public use

• Where does this power come from?
  – The United States Constitution, Fifth Amendment
    • “nor shall private property be taken for public use, without just compensation”
“nor shall private property be taken for public use, without just compensation”

• Elements:
  – Private property
  – Taken by the government
  – For public use
  – Just compensation (“market value”)
What is “public use”
Kelo v. City of New London

• Issue:
  – Can the government use its eminent domain powers to take private property for private commercial development?
  
  • In other words, is “private commercial development” a proper “public use” under the 5th Amendment?
Answer from the *Kelo* case

- Yes, but....
- YES. The private commercial development proposed in the Kelo case was a proper “public use”
  - Large scale redevelopment of neighborhood to commercial buildings → increase tax revenue
  - Redevelopment also included some traditional public uses
    - Pedestrian river walk
    - Marina
    - U.S. Coast Guard museum and parking
- But... States are free to impose tougher restrictions and this decision only refers to the federal minimum standard.
What is the law in Illinois?

- The Illinois Supreme Court has already adopted a **narrower** definition of public use that protects the rights of private landowners.
  - A taking is not for a public use, and thus not valid, if the public is not the primary intended beneficiary of the taking
    - In other words, the Illinois government can only take a landowner’s land if the public is the primary intended beneficiary, not private development.
Law in Illinois – cont’d?

• **Bottom line:** *Kelo* has little impact on Illinois landowners and corrective legislation probably is not necessary. In fact, further reactive legislation may unduly hinder otherwise sound public policy decisions in Illinois:
  
  – Would eliminate flexibility of local governments
  – Would place responsibility with the court system as opposed to elected officials to curb abuses of power

*But are there other eminent domain issues in IL?*
Issue 2: Liability Risks after the ‘05 Amendments to the Rec Use Act

Given the 2005 amendments to the Illinois Recreational Use Act, what is my liability risk if I allow others on my property for recreational purposes at no charge?
Background – *Hall v. Henn*

- **Landowner** liability risks increased when the Ill. Supreme Court decided *Hall v. Henn*, 208 Ill. 2d 325 in Dec. 2003.

- *Hall v. Henn* upset the long-settled expectation of many landowners by narrowing the scope of liability protection available under the Ill. Recreational Use Act, 745 ILCS 65.
  - The protection was from “negligence-based” liability, i.e., from a failure to exercise “reasonable care” under the circumstances.

- After *Hall v. Henn* the IL Rec Use Act offered liability protection *only* to landowners who opened their property to the *general public* for recreational use.
  - The Act no longer protected landowners who allowed only invited or selected guests onto their land for recreational purposes.

* “Landowner” includes a tenant in possession of the land
2005 Amendments Did 3 Things

The 2005 Amendments to the IL Rec Use Act, 
Public Act 94-625, eff. 8/18/05 . . .

• Changed the “Stated Purpose” of the Act
• Changed the definition of “Land”
• Changed the definition of “Recreational and Conservation Purpose”
2005 Amendments – Act’s Purpose

“The purpose of this Act is to encourage owners of land to make land and water areas available to any individual or members of the public for recreational or conservation purposes by limiting their liability toward persons entering thereon for such purposes.”

*Note: New language is underlined*
2005 Amendments – Defining Land

“(a) ‘Land’ includes roads, water, watercourses, private ways and buildings, structures, and machinery or equipment when attached to the realty, but does not include the residential buildings or residential property.”

Note: New language is underlined
2005 Amendments – Definition of Recreational/Conservation Purpose

“(c) ‘Recreational or conservation purpose’ means entry onto the land of another to conduct hunting or recreational shooting or a combination thereof or any activity solely related to the aforesaid hunting or recreational shooting any activity undertaken for conservation, resource management, exercise, education, relaxation, or pleasure on land owned by another.”

- Note: New language is underlined
- Red text (italics) deleted by PA 94-625
2005 Amendments - Summary

• The amendments have reduced the liability risk for Illinois landowners and tenants who, at no charge, allow others on their lands for hunting and recreational shooting.

• However, the amendments do not reduce a landowner’s liability risk if the entrant is allowed on the property for other recreational purposes like fishing or hiking (not hunting and recreational shooting).

• In some circumstances, a landowner’s liability risk is actually increased.
2005 Amendments to Rec Use Act
-- Summary Restated --

• Effective 08/18/05 landowners have liability protection under the Act only if the entrant was allowed on landowner’s property at no charge for hunting or recreational shooting purposes.

• However, this limited protection is available even if the landowner permits access to only a few selected persons.

• See ALTB 05-02 (on farmdoc website).
Managing the Liability Risk to Permitted Recreants

- Decide whether to say “yes” or “no” when others ask to use your property for “recreational” purposes
  - Special status of hunting and shooting per Act
- Keep your property free of unreasonable hazards
- Carry liability insurance!
- Consider use of disclaimers/liability waivers
IL Rec Use Act – Public Policy Issues

• Under the Illinois Recreational Use Act, should fishing, hiking, and other recreational activities be treated the same as hunting and recreational shooting?

• Should public policy encourage landowners to open their lands for a broad range of recreational activities, not just hunting & recreational shooting?
Issue 3: Dealing With Trespassers

Trespassers are an increasing annoyance for many rural landowners

Last year we discussed one’s potential liability toward trespassers; we noted …

– Risk of liability is slight
– It’s ok to use “reasonable force” to protect property from trespassers, but it’s not ok to use deadly force

Today, we’ll discuss several changes in criminal trespass laws
Civil vs. Criminal Trespass

• Civil: Entering without permission
  – Innocent trespass (mistake)
  – Intentional

• Criminal: Defined by Statute
  – Entering after notice that entry forbidden
  – Remaining after being asked to leave
Consequences to Civil Trespasser

• If Landowner/Tenant sues and wins:
  ✓ Recovery for any property damage
  ✓ Recovery for invasion of property right
  ✓ Injunction against future entry

• Trespassers also may be held liable under other statutes:
  E.g., Wrongful Tree Cutting Act
Consequences to **Criminal Trespasser**

If State’s Attorney prosecutes and convicts:

- **Crim. Trespass to Real Property** *(720 ILCS 5/21-3)*
  - e.g., non-residential bldg., or farm (if no motor vehicle used)
  - Class B Misdemeanor (fine, jail 30 days to 6 mo.)
- **Crim. Trespass to farm using motor vehicle** *(720 ILCS 5/21-3)*
  - *Class A Misdemeanor* (fine, jail up to 1 year)
- **Crim. Trespass to Residence** *(720 ILCS 5/19-4)*
  - Class A Misdemeanor if no person in residence
  - Class 4 Felony if occupant present (1 to 3 years!)
- **If Trespasser Causes Criminal Damage to farm equipment, bins, barns** *(720 ILCS 5/21-1)* . . .
  - *Class 4, 3, 2, or 1 Felony* (depending on amount of damage)

- Red text (italics) means new development
2005 Amendment to the **Criminal Damage to Property Statute**

Provides heightened criminal penalties for criminal damage to **grain elevators and farm equipment or immovable items of agricultural production**, including but not limited to grain elevators & bins and barns.

The criminal penalties increase from a misdemeanor to a felony (e.g., punishable by up to 15 years in prison if the damages exceed $100,000 – a Class 1 Felony).

Interestingly, these new criminal penalties now replicate those for criminal damage to **schools & places of worship**.

- See PA 94-509, eff. 08/09/05, and 720 ILCS 5/21-1
Amendments to the **Criminal Trespass** to Real Property Statute

1. Provides that **trespass**
   - using a motor vehicle*
   - on certain agricultural properties**
   is a **Class A misdemeanor** (formerly Class B).
   - This stiffens the criminal penalty for trespassing on farms, doubling the potential jail time from six months to one year and boosting the maximum fine to $2,500.

- See PA 94-509, eff. 8/9/05 and 720 ILCS 5/21-3(a-5)

* Motor vehicle includes off-road vehicles, motorcycle, moped, other powered 2-wheel vehicle

** See next slide (generally, it includes most IL farms)
What “certain agricultural properties”?

(1) A field … used for growing crops or that is capable of being used for growing crops.
(2) An enclosed area containing livestock.
(3) An orchard.
(4) A barn or other agricultural building containing livestock.

So . . . trespassing on any of the above using a motor vehicle* is now a Class A (not B) Misdemeanor

* Motor vehicle includes off-road vehicles, moped, motorcycle, other powered 2-wheel vehicle
Amendments to the Criminal Trespass to Real Property Statute (related to civil damages)

2. Provides that a trespasser using a motor vehicle* may be liable in a related civil action for civil damages, court costs, & reasonable attorney’s fees
   • And sets forth the measure of damages (see next slide)

* Includes off-road vehicles, motorcycle, moped, other powered 2-wheel vehicle

- See PA 94-512, eff. 1/1/06 and 720 ILCS 5/21-3(g)
Measure of Civil Damages

(ii) twice actual damages if the owner has previously notified the person to cease trespassing; or
(iii) in any other case, the actual damages, but not less than $50.

If the operator of the vehicle is under the age of 16, the owner of the vehicle and the parent or legal guardian of the minor are jointly & severally liable.
  – Parents: Keep an eye on your children!!
  – Vehicle owners: Beware of persons < 16 using vehicle!!
How can I access these amendments to the Illinois Statutes?
Issue 4: Finding State Statutes

• Earlier, we looked at several new statutes
  – Amendments to the IL Recreational Use Act
  – Amendments to the Criminal Trespass to Real Estate and Criminal Damage to Property Statutes

• Farmers often want to know about other state laws
  – E.g., what does the Fence Act says about division fences
  – How do I terminate a year-to-year lease

• Using farmdoc and the Illinois General Assembly Website, you can easily access these and other IL Statutes/Acts
A New Farmdoc Article

• Title: “A Farmdoc Users’ Guide For Accessing Legislative Information From The Illinois General Assembly Website”

• http://www.farmdoc.uiuc.edu/legal/articles/ALTBs/ALTB_05-03/ALTB_05-03.pdf

• See handout – ALTB 05-03
<table>
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<th>Legislation &amp; Laws</th>
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Illinois Compiled Statutes

Information maintained by the Legislative Reference Bureau
Upating the database of the Illinois Compiled Statutes (ILCS) is an ongoing process. Recent laws may not yet be included in the ILCS database, but they are found on this site as Public Acts soon after they become law. For information concerning the relationship between statutes and Public Acts, refer to the Guide.

GOVERNMENT
- CHAPTER 5 GENERAL PROVISIONS
- CHAPTER 10 ELECTIONS
- CHAPTER 15 EXECUTIVE OFFICERS
- CHAPTER 20 EXECUTIVE BRANCH
- CHAPTER 25 LEGISLATURE
- CHAPTER 30 FINANCE
- CHAPTER 35 REVENUE
- CHAPTER 40 PENSIONS
- CHAPTER 45 INTERSTATE COMPACTS
- CHAPTER 50 LOCAL GOVERNMENT
- CHAPTER 55 COUNTIES
- CHAPTER 60 TOWNSHIPS
- CHAPTER 65 MUNICIPALITIES
- CHAPTER 70 SPECIAL DISTRICTS
- CHAPTER 75 LIBRARIES

EDUCATION
- CHAPTER 105 SCHOOLS
- CHAPTER 110 HIGHER EDUCATION
SPECIAL DISTRICTS

AIRPORT
- 70 ILCS 5/ Airport Authorities Act.
- 70 ILCS 10/ Interstate Airport Authorities Act.
- 70 ILCS 15/ Kankakee River Valley Area Airport Authority Act.

CEMETERY
- 70 ILCS 105/ Cemetery Maintenance District Act.

COMMUNITY
- 70 ILCS 20/ Oak Creek Code.
- 70 ILCS 210/ Metropolitan Fair and Exposition Authority Act.
- 70 ILCS 215/ Fair and Exposition Authority Reconstruction Act.

CONSERVATION
- 70 ILCS 40/ Soil and Water Conservation Districts Act.
- 70 ILCS 410/ Conservation District Act.
- 70 ILCS 415/ Conservation District Organization Validation Act.

DEVELOPMENT
- 70 ILCS 50/ Fort Sheridan Redevelopment Commission Act.
- 70 ILCS 50/ Joliet Arsenal Development Authority Act.
- 70 ILCS 520/ Southwestern Illinois Development Authority Act.
- 70 ILCS 525/ Tri-County River Valley Development Authority Law.
- 70 ILCS 530/ Upper Illinois River Valley Development Authority Act.
- 70 ILCS 532/ Western Illinois Economic Development Authority Act.
- 70 ILCS 535/ Will-Kankakee Regional Development Authority Law.

DRAINAGE
- 70 ILCS 60/ Illinois Drainage Code.
- 70 ILCS 610/ Drainage District Pollution Abatement Act.
- 70 ILCS 615/ Chicago Drainage District Act.
SPECIAL DISTRICTS
(70 ILCS 605/) Illinois Drainage Code.

View Entire Act

Article I - General Provisions
Article II - Rights Of Drainage--Private And Mutual Drains
Article III - Organization Of Drainage Districts
Article IV - Commissioners And Other Officers--Selection, Qualifications, Powers And Duties
Article V - Levy And Collection Of Assessments
Article VI - Letting Contracts, Indebtedness, Borrowing And Handling Funds
Article VII - Subdistricts And Minor Subdistricts
Article VIII - Annexation And Detachment Of Lands
Article IX - Consolidation Of Districts, Subdistricts And Minor Subdistricts
Article X - Abandonment Of Work, Dissolution Of Districts, Subdistricts And Minor Subdistricts
Article XI - Claims Against And Contracts With Other Districts And Municipal Corporations Exercising Drainage Powers
Article XII - Miscellaneous Provisions--Penalties

Top
Search the Illinois Compiled Statutes

Read the Search help page for important information about searching this database.

If you don’t read it, you may not get meaningful results.

Search By Keyword(s):

Search ILCS by Act name:

Updating the database of the Illinois Compiled Statutes (ILCS) is an ongoing process. Recent laws may not yet be included in the ILCS database, but they are available on this site as Public Acts.

Public Acts are added to this site soon after they become law. Searching the Public Act database is helpful when you want to know whether a particular Section or Act in the statutes has been amended by a recent Public Act. For example, if you want to see whether 10 ILCS 5/1-4 has been amended by a recent Public Act, then search for 10 ILCS 5/1-4 using the Public Act search page.
Public Act Search - 94th General Assembly

Search By Keyword
To look up a Public Act by keyword(s), enter the keyword(s) you wish to search for and click the Search button. Read the Search Help page for important information about searching this database. If you don't read it, you may not get meaningful results. To access this information, click the Help button below.

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Search By Number
To look up a Public Act by number, enter the number in the format: 093-0100, where 093 is the number of the General Assembly and 0100 is the Public Act number that was assigned.

Search By Keyword

Search  Help
### 94th General Assembly Legislation

**SENATE**
- Bills
- Resolutions
- Joint Res.
- Joint Res. Const. Amendments
- Exec. Orders
- JSR

**HOUSE**
- Bills
- Resolutions
- Joint Res.
- Joint Res. Const. Amendments
- Exec. Orders
- JSR

**The listing below shows Regular Session legislation. [View Special Session legislation.](#)**

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#### Senate - Bills

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Issue 5: Seed Saving Contracts

• History
  – Most seeds produced via genetic engineering (e.g., Roundup Ready Soybeans) were protected with utility patents and plant variety protection certificates (i.e., two types of overlapping intellectual property)
  – Purchase of these seeds also required execution of a license agreement
    • Seed may be used for only a single growing season
    • Licensees (farmers) prohibited from saving seed for future planting or sale to third party
  – Violators of the license agreement (i.e., farmers saving seed) were sued under federal patent laws
  – Courts have uniformly upheld these license agreements and, sometimes, awarded significant damages to the patent holder
• Now
  – Many non-genetically engineered seeds have utility patent protection and require execution of license agreements
  – The same rules for seed saving apply—don’t do it!
Seed Saving Contracts: The Latest Development

- Purchase of seeds **without** utility patents and **without** plant variety protection certificates may also require license agreements that prohibit seed saving
  - Is this legal?
    - The Plant Variety Protection Act specifically allows saving of seeds that have a PVP certificate….but these seeds are **not** protected with PVP certificates
    - **Probably** a matter of contract law—you entered into a contract (license agreement) when you purchased the seeds so you must abide by the contract.
Issue 6: Drainage Law
Increased flows from development to farmland

- What happens when an adjacent development project increases water flows across farmland?
Some facts of the case:

- Plaintiff Bollweg’s property lied between the new residential development (Defendant Richard Marker’s property) and the Fox River.
- Prior to the development, storm water that fell on D’s property either seeped into the ground or flowed across P’s property in a natural sheeting fashion.
Bollweg, Additional Facts

– D’s development altered the natural flow
  • Excess water, silt & debris
  • Area drained across P’s property increased from 62 to 81 acres
– But . . . D’s storm water plan complied with all relevant municipal ordinances and D argued that P refused to grant D’s reasonable request to install an underground pipe to transport the water under plaintiff’s property and to the Fox River.
  • Plus: D’s storm water retention basis actually reduced erosion on P’s land by releasing the water from the 81 acres over a slower time
General Rules for Drainage

• No water from another watershed
• No discharge of water from one property to another except at the natural drainage point
• No unreasonable increase in flows
Result of the *Bolweg* Case

- Injunction prohibiting further development until drainage situation corrected
- Why?
  - Impermissibly altered the natural flow
    - Water from another watershed (81 vs. 62 acres)
    - Increased duration of storm water discharge even though it was at a slower flow rate
Summary of Illinois Law
Issue 7: Mad Cow Disease

- Several livestock-related developments have been in the news this past year.
- Issue 7 will focus on Mad Cow Disease
  - Regulatory Background
  - Lifting US import ban on Canadian Beef
  - The Japanese ban on importing US Beef
- Issue 8 will focus on the Beef Check-off
Mad Cow Disease (a/k/a BSE or Bovine Spongiform Encephalopathy)

• BSE is a relatively new cattle disease
• BSE is spread by feeding cattle the “rendered” brains and other central nervous system tissues of other cattle
• Since its discovery in 1986 BSE has spread from England to some 25 countries around the world, including most of Europe, the Middle East, Japan, Canada and the US
• Confirmed cases in Canada and the U.S. have been few, with the first case discovered in
  – Canada: 05/20/03
  – USA: 12/23/03
Connection between BSE and vCJD

- In 1996, the British government announced that variant Creutzfeldt-Jakob Disease (vCJD) – a newly identified and fatal disease in humans – was likely caused by human consumption of cattle products that were contaminated with the BSE agent – prions
  - Prions are abnormally shaped and extremely hardy proteins
- The BSE agent is generally confined to the central nervous system of infected cattle
  - E.g., the brain, spinal cord, eyes, etc.
  - Prions are not destroyed by the process of cooking such waste animal tissue to convert it to a high protein feed
- The BSE agent appears not to exist in muscle tissue of cattle, theoretically making the meat of an infected animal safe to eat
  - But eating the brains and other central nervous system tissues of an infected animal could cause vCJD
The Potential Threat of BSE

• Spread of BSE among domestic beef herds
  – Caused by domestic beef animals eating feed “contaminated” with central nervous system tissue from “rendered” animals with BSE

• Spread of Creutzfeldt-Jakob Disease (vCJD) in humans
  – Caused by humans eating beef or beef products containing central nervous system tissue from cattle with BSE

It should be noted that the human risk of contacting vCJD is very remote, especially when compared to other risks including other food-related risks
In the US there are three lines of defense protecting animals & humans

- **Primary Defense:** FDA’s 1997 feed ban prohibiting the feeding of ruminant protein to other ruminants.
- USDA-Food Safety and Inspection Service (FSIS) regulations
  - They generally keep infected cattle out of human food
- USDA’s Animal and Plant Health Inspection Service (APHIS) regulations that ban the importation of ruminants and ruminant products from countries where BSE was known to exist
BSE and Importing Canadian Beef

• After the 2003 discovery of BSE in Canada, the Secretary of Agriculture issued an Emergency Order adding Canada to the list of regions where BSE was known to exist.
  – Under USDA regs then in effect, this prohibited all imports of live ruminants or ruminant meat products from Canada. See 9 C.F.R. §§ 93.401, 94.18 (2003).
• On 01/04/05 USDA published a new Rule (to be eff. in March) that:
  – Allowed the importation of Canadian cattle under 30 months of age provided the cattle were immediately slaughtered or fed and then slaughtered (Canadian cattle could either go directly to US packing plants or move into US feedlots, but they could not go into US beef cows herds).
  – It permitted the importation of beef products from Canadian cattle of all ages (later limited to cattle under 30 months).
  – Rule issued because USDA had concluded that risk of introducing BSE into the US from Canada was minimal (the import ban wreaked havoc on the highly integrated beef market between the United States and Canada.)
The R-CALF Litigation

- R-CALF (the Ranchers Cattlemen Action Legal Fund United Stockgrowers of America) challenged USDA’s final rule in the U.S. District Court for the District of Montana
  - Judge Cebull granted a preliminary injunction on March 2, 2005
- On July 25, 2005, a three-judge panel of the Ninth Circuit Court of Appeals overruled the preliminary injunction issued by Judge Cebull
  - This allowed Canadian cattle and beef products to enter the US in accordance with USDA’s Final Rule.
  - See Ranchers Cattlemen Action Legal Fund United Stockgrowers of Am. v. U. S. Dep't of Agric., 415 F.3d 1078 (9th Cir. 2005).
The Canada-US Import Situation Parallels the US-Japan Situation

• Just as the US imposed a ban on imports of Canadian Beef after BSE was discovered in Canada . . .

• So has Japan imposed a ban on imports of US Beef after BSE was discovered in the US
The Japanese Ban on US Beef Imports

• In October 2001, after the first case of BSE was discovered in Japan, Japan initiated a comprehensive BSE prevention and food safety scheme that included:
  – an import ban of beef from countries where BSE is present,
  – BSE testing of all cattle slaughtered for food (requirement lessened in 2005 – all cattle no longer tested), and
  – incineration of the brain, spinal cord and eyeballs (and other specific risk materials, i.e., other SRMs) of all slaughtered cattle, regardless of age.
• After the discovery of BSE in the US in 2003, Japanese imports of US beef were immediately banned under Japan’s earlier announced ban on beef imports from countries where BSE is present.
  – Prior to Japan’s suspension of beef imports from the US, Japan was the largest export market for US Beef - $1.7 billion annually.
US-Japan Recent Developments

• After the import ban was imposed, the US and Japan began a series of discussions intended to harmonize their approaches to BSE prevention and ultimately allow the resumption of beef imports by both countries.

• On August 1 Japan eased its domestic BSE testing requirements, hopefully paving the way for the resumption of US beef exports to Japan of cattle 20 months or younger.
Issue 8: Beef Checkoff

• The beef “checkoff” ($1 per head of cattle sold) arose under The Beef Promotion and Research Act of 1985.
• In May 1988, beef producers voted to continue the checkoff
• Since then, > $1 billion has been collected
  – A large portion has been spent on promotional projects authorized by the Beef Act – many using the familiar trademarked slogan “Beef. It’s What’s for Dinner.”
• USDA oversees similar promotional programs, funded by checkoffs, for a number of other agricultural commodities.
• Of particular interest in Illinois is
  – Soybeans (7 CFR §1220.101), and
  – Pork (7 CFR §1230.1).
Beef Checkoff Opposition

- Some beef producers were unhappy with the advertising message funded by the checkoff because it promoted beef as a generic commodity, which, they argued, impedes their efforts to promote the superiority of, *inter alia*, American beef, grain-fed beef, or certified Angus or Hereford beef.

- They sued in Federal District Court on a number of grounds. Their final argument relied on a newly decided case, *United States v. United Foods, Inc.*, 533 U. S. 405 (2001), in which the Supreme Court invalidated a mandatory checkoff that funded mushroom advertising.
  - 1st Amendment guarantee of free speech includes a constitutional right not to be compelled to speak (or to fund speech, so long as the speech is not government speech)
  - The Mushroom case was not government speech
District & Appellate Ct. Opinions

• District Court: Declared that the Beef Order unconstitutionally compelled respondents to subsidize speech to which they objected.
  – The court rejected USDA’s contention that the checkoff funds only government speech.
  – The court entered a permanent injunction barring any further collection of the beef checkoff
• Court of Appeals for the 8th Circuit affirmed.
The key question was whether the generic advertising of beef was the Government’s own speech.
If the speech is government speech, the beef checkoff is constitutional.
Analysis of the promotion campaign indicates it is government speech:
   - The program is authorized and the basic message prescribed by federal statute.
   - Specific requirements for the promotions’ content are imposed by federal regulations promulgated after notice and comment.
   - The Secretary of Agriculture, a politically accountable official, oversees the program, appoints and dismisses the key personnel, and retains absolute veto power over the advertisements’ content, right down to the wording.
   - Congress retains oversight authority and the ability to reform the program at any time.
   - Such a promotional campaign is government speech.
   - Therefore, the beef checkoff is constitutional.
Issues 9, 10, 11: Year-End Tax Issues & Opportunities
Issue 9: Leveling Taxable Income

Level Income Year-to-Year Is Best

- Cash basis tax reporting gives flexibility.
- Shift income
- Shift expenses
2005 Income: $43,000
2006 Income: $125,000

2005 Tax: $5,720
2006 Tax: $24,732

2 Year Ave. Income: $84,000
Tax Savings: $1,792

Income Tax:
- 10%: $14,600
- 15%: $44,800
- 25%: $60,550
- 28%: $62,850
Reduce 2005 Income

• Delay selling 2005 crop until 2006.
• Prepay 2006 expenses in 2005.
• Accelerate itemized deductions.
  – Unique opportunity for charitable contributions.
• Contribute to deductible retirement plan.
• Make *needed* equipment purchases to use §179 deduction.
Increase 2005 Income

- Delay paying 2005 bills.
- Do not prepay 2005 expense.
- Contribute to Roth IRA rather than traditional IRA.
Caution

• Holding receipts.
• Deferred payment contracts.
• Prepaid expenses.
• The check’s in the mail.
Does “Farm Income Averaging” eliminate the need to level income?

No, and the following example explains why.

Example:

- 2005 Averagable Income = $150,000
- Elect to average $30,000
- Result: Additional $10,000 taxed in each of last 3 years.
Avoid Peaks and Valleys

2002

- 33%
- 28%
- 25%
- 15%
- 10%

2003

- 15%
- 25%
- 15%
- 10%
- 33%

2004

- 10%
- 15%
- 15%
- 15%
- 33%
Issue 10: Taxation & Crop Insurance

• 2005 payment could “bunch” income.
• Deferral election.
  – Attach statement.
  – Identify crop.
  – Identify cause and date of damage.
  – Specifically identify payments.
  – Identify carrier.
## Types of Crop Insurance

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<thead>
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<th>Acronym</th>
<th>Name</th>
<th>Type</th>
<th>Qual.</th>
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</thead>
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<td>Group risk policy</td>
<td>Co. yield</td>
<td>No</td>
</tr>
<tr>
<td>CAT</td>
<td>Catastrophic ins.</td>
<td>Ind. yield</td>
<td>Yes</td>
</tr>
<tr>
<td>APH</td>
<td>Actual prod. history</td>
<td>Ind. yield</td>
<td>Yes</td>
</tr>
<tr>
<td>GRIP</td>
<td>Group risk inc. plan</td>
<td>Co. revenue</td>
<td>No</td>
</tr>
<tr>
<td>IP</td>
<td>Income protection</td>
<td>Ind. revenue</td>
<td>No</td>
</tr>
<tr>
<td>RA</td>
<td>Revenue assurance</td>
<td>Ind. revenue</td>
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<tr>
<td>CRC</td>
<td>Crop revenue coverage</td>
<td>Ind. revenue</td>
<td>No</td>
</tr>
</tbody>
</table>
Crop Insurance Solution

• Try to control when check is received.
  – Filing deadline?
Issue 11: Domestic Production Activity Deduction

• Farmers qualify.
  – Crop
  – Livestock

• Only applies to production.
  – Custom work does not qualify.
Calculation

• Lesser of:
  – 3% of net production income.
  – 3% of adjusted gross income/taxable income.

• Limited to:
  – 50% of W-2 wages paid
Example

- Net Qualified Sch. F Income = $70,000
- Adjusted Gross Income = $100,000
- W-2 Wages paid = $12,000

- $3\% \times $70,000 = $2,100
- $3\% \times $100,000 = $3,000
- 50\% \times $12,000 = $6,000
Future Years

- 2007 deduction increases to 6%
- 2010 deduction increases to 9%
The End

The BIG TEN Issues in Law & Tax

By Don Uchtmann, Bryan Endres & Gary Hoff
Should Technical Analysis Be Part of Your Crop Marketing Program?

Scott H. Irwin and Darrel L. Good
Perception that Markets Have Changed Dramatically

...the funds – managed commodity investment groups with significant financial and technological resources – may exert undue collective influence on market direction without regard to real world supply-demand or other economic factors.

---Illinois farmer, September 1999

The introduction of the index funds, along with expanding trading limits for large specs, has resulted in unprecedented price volatility. I suspect the volatility we have seen in grains -- sometimes $100-per-acre price swings -- and livestock where weekly price swings can be more than the 10-year average profitability, will be the norm. Consistency and flexibility have never been more important than in today's marketplace.

---market analyst, November 2005
...most people in the grain industry other than fundamental analysts have concluded that the market prices have little to do with supply and demand, but more on the technical movements of the markets themselves. I have become a much better marketer since I have sworn off fundamental analysis. I think farmers would be better served with a more in-depth discussion of technical analysis and the effect of funds in the market.

---Illinois farmer, summer 2005
Technical Analysis is Very Controversial Among Traders

I haven’t met a rich technician. Excluding, of course, technicians who sell their services and make a lot of money.

---Jim Rogers in Market Wizards

I always laugh at people who say, ‘I’ve never met a rich technician.’ I love that! It is such an arrogant, nonsensical response. I used fundamentals for nine years and got rich as a technician.

---Marty Schwartz in Market Wizards
Academics Tend to be Highly Skeptical of Technical Analysis

Chartist-technicians are in about as low repute as ESP investigators because they usually have holes in their shoes and no record of reproducible worth.

--Samuelson, 1965

Despite decades of dredging the data, and the popularity of media reports that purport to explain where markets are going, trading rules that reliably survive transactions costs and do not implicitly expose the investor to risk have not yet been reliably demonstrated.

---Cochrane, 2001
Outline of Workshop

• Introduction to technical analysis
  – Charting
  – RSI
  – Moving averages
• Market efficiency and random walks
• Evidence on the profitability of technical analysis
• Implications for farm marketing
**Fundamental Analysis**

- **Definition:** An assessment of price based on underlying **supply** and **demand** factors and changes in those relationships
- **Goal:** Estimate **fundamental value** and compare to market price
  - Value > Price: Bullish
  - Value < Price: Bearish
- **Focus on fundamentals of supply and demand,** such as crop size, export demand, consumer income
  - Forecast techniques range from subjective judgment to sophisticated statistical models
Technical Analysis

- A forecasting method for price movements using past prices, volume, and open interest
- Most technical indicators focus on patterns in historical prices
- Goal: Determine trend in past prices and project this into the future
Types of Technical Analysis

- Chart analysis
- Pattern recognition
- Overbought/Oversold indicators
- Seasonal tendencies
- Cycle analysis
- Computerized trading systems
FIGURE 4.1
A Typical Bar Chart
Format for a Commodity
Futures Contract

Agricultural Futures and Options: Principles and
Strategies. Wayne D. Purcell and Stephen R. Koontz
FIGURE 4.2
Illustration of an Uptrend Line Drawn across Two Daily Price Lows

FIGURE 4.23
An Island-Reversal Top on a Bar Chart

FIGURE 4.29
Triangle Formations as Consolidation Patterns on a Bar Chart

FIGURE 4.37
Corrections on the December 1997 Wheat Futures Contract

FIGURE 6.2
Relative Strength Index on the March 1998 Feeder Cattle Futures Chart

TABLE 4.1
Procedure for Calculating a 14-Day Relative Strength Index

To calculate:

1. Record the last 14 day-to-day price changes based on closing prices.
2. Sum the negative and positive changes and divide each sum by 14 to create a “down average” and “up average,” respectively.
3. Define Relative Strength Index as $R = (U)/(U + D)$ where $U =$ up average and $D =$ down average.
4. Employ $RSI = (U)/(U + D) \times 100$ to convert to percentages versus decimals.
## An Example of Computing RSI Index

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<tr>
<th>Closing Price</th>
<th>Day</th>
<th>Positive Price Change</th>
<th>Negative Price Change</th>
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</table>

\[ \text{RSI} = \frac{5.1 + 8.3 + 13.4}{3} = 8.33 \]

\[ \text{RSI} = 0.38 \]

\[ \text{RSI} = 38 \]
Trading Systems

• A technical trading system consists of a set of trading rules that generate trading signals (long, short, or out of the market) according to parameter values

• Popular technical trading systems include
  – Moving averages
  – Channels
  – Stochastics
  – Momentum oscillators
### TABLE 5.1

Demonstration of 3- and 10-Day Moving Averages for Lean Hog Futures: Calculations and Buy-Sell Signals

<table>
<thead>
<tr>
<th>Closing Price</th>
<th>3-Day Moving Total</th>
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FIGURE 5.8
Bar Chart and Performance of 9- and 18-day Moving Averages for December 1996 Corn Futures

Key Question: Does it work?
Demonstration of an Efficient Market

If the “market” for taking tickets is efficient, then all fans will spend about the same amount of time in line, regardless of which line they choose.
First Source of Price Movement in Efficient Markets: Temporary Price Changes

- Small, short-term price movements due to temporary supply-demand imbalances between buy and sell orders
- Sometimes called the “bid-ask bounce”
- Random effect through time
- Occurs over very short time intervals, typically by the second, minute or, at most, the hour
Second Source of Price Movement in Efficient Markets: New Information

• **New information** on supply and demand factors, such as crop size, exports, etc.

• **New information**
  - Changes *equilibrium price*
  - *Unpredictable* in content and importance

• If data is predictable, then it **cannot** be new information!
Main Implications of Market Efficiency

• Competition forces prices to react **instantaneously** and **correctly** at all times to **new information**

• If prices do not change instantly in response to new information, then riskless profit opportunities exist
  – Such opportunities quickly disappear in a competitive market with many well-financed and intelligent participants
  – Sometimes termed the **self-destructive** nature of profitable opportunities in efficient markets
Main Implications of Market Efficiency

• Market efficiency does **not** imply that prices wander aimlessly and are disconnected from supply and demand information.

• Just the opposite is true: prices **perfectly** track new information on supply and demand.

• Equilibrium price is a **moving target** because market information changes.
  - Prices respond **positively** to **bullish** new information.
  - Prices respond **negatively** to **bearish** new information.
Bottom Line

- Arrival of new information must be random, if not, information is not new
- Since new information about supply and demand changes randomly, so must prices
- **Key implication: price changes randomly in an efficient market**
Coin Flipping Experiment

- Start graph at $5.00/bu.
- Flip coin one time
  - heads: daily high up 10 cents from previous close
  - tails: daily low down 10 cents from previous close
- Setting the close
  - heads: market closes at high of daily range
  - tails: market closes at low of daily range
- Generate 30 “days” (two flips/day)
Random Walks and Price Movements

• Price changes in an efficient market from day-to-day are independent and behave as if generated by flips of a fair coin.

• Called a random walk by statisticians
  - Analogy to the path of a drunk walking home from a bar (We are not making that up!)
Implications for Technical Analysis

• After the fact, so-called trends and chart patterns may appear but have no predictive power whatsoever.

• Any patterns or trends in past prices are an illusion and are useless for predicting the future.
  – Like trying to predict the sequence of lottery numbers from past lottery numbers.
  – Like trying to predict the sequence of numbers from a roulette wheel from recent winning numbers.

• Impossible to consistently use technical analysis in an efficient market to make profitable forecasts of price level or direction.
Counter Points by Technical Analysts

- Real-world markets are not perfectly rational
- Technical analysis works in real markets because it takes advantage of natural **psychological biases** in people
  - Waves of irrational optimism and pessimism
  - Greed, hope and fear cycles
- Technical analysis may also work because so many people use it
  - If everyone is doing it, then prices must follow technical indicators!
Recent Work by Economists

• Developed new models showing that price can plausibly adjust slowly to new information due to:
  – Market frictions and transaction costs
  – Market power
  – Trader sentiments
  – Herding behavior of traders

• Slow adjustment to information in the models allows technical analysis to be profitable
Research on the Profitability of Technical Analysis


- Both studies available at the AgMAS website: http://www.farmland.uiuc.edu/agmas
2005 Park and Irwin Study

• Replicates a well-known 1988 study on a new set of data to avoid data mining problems

• 12 futures markets
  – Commodities: corn, soybeans, cattle, pork bellies, sugar, cocoa and lumber
  – Metals: copper and silver
  – Financials: British pound, Deutsche mark and US treasury bills

• Trading model
  – Simulates daily entry and exit of futures trades based on 12 different technical systems
  – Computes profits after transactions costs
## Technical Trading Systems Tested

<table>
<thead>
<tr>
<th>System Type</th>
<th>System Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moving Average</td>
<td>Simple Moving Average with Percentage Price Band (MAB)</td>
</tr>
<tr>
<td></td>
<td>Dual Moving Average Crossover (DMC)</td>
</tr>
<tr>
<td>Channel</td>
<td>Outside Price Channel (CHL)</td>
</tr>
<tr>
<td></td>
<td>L-S-O Price Channel (LSO)</td>
</tr>
<tr>
<td></td>
<td>M-II Price Channel (MII)</td>
</tr>
<tr>
<td>Momentum Oscillator</td>
<td>Directional Indicator (DRI)</td>
</tr>
<tr>
<td></td>
<td>Range Quotient (RNQ)</td>
</tr>
<tr>
<td></td>
<td>Reference Deviation (REF)</td>
</tr>
<tr>
<td></td>
<td>Directional Movement (DRM)</td>
</tr>
<tr>
<td>Filter</td>
<td>Alexander’s Filter Rule (ALX)</td>
</tr>
<tr>
<td></td>
<td>Parabolic Time/Price (PAR)</td>
</tr>
<tr>
<td>Combination</td>
<td>Directional Parabolic (DRP)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Number of Profitable Systems</th>
<th>Average Net Profit for 12 Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn</td>
<td>0/12</td>
<td>-7.9 %/yr.</td>
</tr>
<tr>
<td>Soybeans</td>
<td>0/12</td>
<td>-7.2 %/yr.</td>
</tr>
<tr>
<td>Pork Bellies</td>
<td>1/12</td>
<td>-8.4 %/yr.</td>
</tr>
<tr>
<td>Live Cattle</td>
<td>2/12</td>
<td>-3.3 %/yr.</td>
</tr>
<tr>
<td>All 12 Markets</td>
<td>34/144</td>
<td>-5.8 %/yr.</td>
</tr>
</tbody>
</table>

\[ y = -0.70x + 4.85 \]

\[ y = -0.58 x + 3.12 \]

$$y = -0.52 \times + 3.87$$
Explanations for the Disappearance of Technical Trading Profits

- Data snooping bias in past studies
- Structural change in price behavior on futures markets
- Self-destructive nature of technical trading strategies
Annual Net Returns of Commodity Trading Advisors (CTAS), 1981-2004

Source: Center for International Securities and Derivatives Markets (CISDM), The University of Massachusetts, Amherst
Annual Net Returns of Commodity Trading Advisors (CTAS) and Total Assets, 1981-2004

Sources: Center for International Securities and Derivatives Markets (CISDM), The University of Massachusetts, Amherst; The Barclay Group
Implications for Farm Marketing

• Evidence clearly points to **diminished effectiveness** of technical trading systems
  - Hedging programs based explicitly on signals from technical trading systems are unlikely to be successful
  - As an example, one prominent advisory service started a “Systematic Hedging” program where signals are generated by 9- and 18-day moving averages

• **Cautions:**
  - This evidence does not directly apply to other technical indicators, such as chart patterns, gaps, retracements, and reversals
  - Most market advisory service programs and farmers do not tie pricing decisions directly to the signals from technical trading systems
Typical Argument about the Role of Technical Analysis in Farm Marketing

Technical analysis is the key to correct timing of buy and sell decisions in commodity futures markets. The technical dimensions of the market do not dominate the fundamental supply-demand dimensions, and no sustained technical pattern will develop that is contrary to the emerging and underlying supply-demand balance. But the discovered price can and will move and trace out technical patterns, as the market seeks to discover the price that balances the forces of supply and demand. Within the limits to those price moves, technical analysis can be an important guide the timing of pricing actions.

---Purcell and Koontz, Agricultural Futures and Options, Principles and Strategies
Difference between Advisory Service Performance and 24-Month Market Benchmark, 1995-2003 Crop Years

Corn

Average = +1

Soybeans

Average = +16
Final Points

- Set realistic expectations
- Available evidence suggests:
  - No opportunity to profit from technical trading systems
  - Little if any enhancement of corn and soybean marketing performance by incorporation of technical indicators
- Technical analysis is not a "silver bullet" for marketing success
Recommended Reading


