FARM BUSINESS MANAGEMENT

FARM ECONOMICS Facts & Opinions

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PROJECTED 2005 COMMODITY PRICES SUGGEST CAUTION IN FARM RENTAL BIDDING

Many observers believe that cash rents for the 2005 cropping year will rise above 2004 levels because average cash rents have been increasing in northern and central Illinois for the past several years. Moreover, higher commodity prices during late 2003 and the first half of 2004 led to projections of higher agricultural profitability and were anticipated to further increase cash rent bids.

Corn and soybean prices fell dramatically during June and July 2004. It is now reasonable to use much lower prices when projecting returns for the 2005 cropping year than those used during 2004. These prices suggest using caution when making cash rent bids for 2005.

Projected returns are examined in this paper for share and cash rental arrangements to see how much profitability is expected to decline between 2004 and 2005. Projections are made using yields, revenues, and costs applicable to highly productive farmland located in central Illinois.

Return Calculations

Returns are calculated using the *Farm Rent Evaluator*, a Microsoft Excel spreadsheet available for download from the *FAST* section of *farmdoc* (www.farmdoc.uiuc.edu). This spreadsheet compares returns for seven alternative leases based on user-entered farm budgeting information. In this paper, returns are reported for traditional 50% share rent leases and cash rent leases having payments ranging from $140 per acre up to $200 per acre.

Returns are calculated for four different price and yield scenarios:

1. 2004 Crop Year Forecast in February 2004. This scenario uses prices and yields that were realistic in February 2004. Cash prices used in the scenario are $2.50 for corn and $6.40 for soybeans. Yields are 160 bu. for corn and 50 bu. for soybeans, representing five-year average yields for central Illinois farmland of high productivity.
2. 2004 Crop Year Forecast in August 2004. This scenario represents an updated 2004 forecast after commodity prices declined. This scenario uses cash prices of $2.15 for corn and $5.45 for soybeans. It appears that 2004 will be an excellent production year. Hence, above average yields are used in this scenario. Yields used in forecasts are a 188 bu. corn yield (4 bu. higher than the 2003 yield) and a 52 bu. soybean yield (close to trend line yield projections).
3. 2005 Crop Year Forecast. This scenario is based on price projections for the 2005 crop year. A $2.49 cash corn price and a $5.70 soybean price are used in this scenario. Yields are five-year averages (160 bu. corn yield and 50 bu. soybean yield).

4. Average Yields and Loan Rate Prices. Cash prices of $2.05 and $5.25 are used in this scenario. Yields are five-year averages (160 bu. corn yield and 50 bu. soybean yield).

Some farms have lower cost than other farms. Lower cost farms are able to bid higher cash rents and have the same returns when compared to higher cost farms. Average and low 1/3 cost scenarios are examined to evaluate how different costs impact returns. Table 1 shows corn and soybeans budgets for these two cost scenarios. These budgets are based on farm records from central Illinois grain farms enrolled in Illinois FBFM. The average columns give the average cost for all central Illinois farms. The lowest 1/3 costs are based on 1/3 of the farms with the lowest per acre costs. Costs differ dramatically between the two groups. Total expenses for corn production for the average group are $30 per acre higher than for the low 1/3 group ($241 total expenses for corn for the average group versus $211 for the low 1/3 group).

Returns equal crop revenues plus government payments (direct, counter-cyclical and loan deficiency payments) minus expenses. The *Farm Rent Evaluator* contains default direct payment and counter cyclical yields for all counties in Illinois. Returns calculated in this paper use Logan County, Illinois default yields.

Farmer and landlord returns are reported in the following section for share and cash rents. For share rents, farmers receive 50% of the revenue, pay 50% of the direct expenses, and pay 100% of the power and overhead expenses. Under cash rent arrangements, farmers receive all revenue, pay all expenses in Table 1, and pay cash rents to landlord.

Property taxes of $30 per acre are subtracted from gross returns to arrive at landlord returns. Because property taxes are subtracted, landlord returns will be below the gross returns landlords receive from the farmer.

Farmer and Landlord Returns

Panel A of Table 2 shows per acre return forecasts for farmers with average costs. The 2004 projected return forecast in February is $52 per acre for share rent leases. The August forecast of $57 is $5 per acre higher than the February forecast. Projected returns increase using the August forecast because price declines between February and July are more than offset by higher than average yields.

At this point, 2005 is projected to be a less profitable year than 2004. Farmer returns for 2005 is projected at $43 per acre, $14 lower than the 2004 forecast of $57 per acre

Panel A also shows farmer returns for cash rent arrangements. Projected 2004 returns forecast in August show that returns are $64 when $140 is paid for cash rent, $44 for a $160 cash rent, $24 for a $180 cash rent, and $4 for a $200 cash rent. In 2004, farmers may generate positive returns even at $200 per acre cash rents.

Farm returns can be used for many purposes including funding family living expenses. Uses of farm returns vary from farm to farm. One benchmark is the amount of funds required to support family living. Based on Illinois FBFM records, the average family living withdrawal is about $42,000 per year for one family. Given a 1,500 acre farm, a return of $28 per acre (i.e., $42,000 / 1,500 acres) is required to generate $42,000 of funds available to support family living. The August forecast of 2004 returns indicate that farm returns generate at least $28 for cash rent payments of $140 and $160 per acre (see Panel A of Table 2).

Returns for cash rents in 2005 are considerably lower than 2004 levels. Forecasted returns given a $140 per acre cash rent payment and average costs are $64 per acre for 2004 and $36 for 2005 (see Panel A of

Table 1. Corn and Soybean Budgets for Central Illinois, High Productivity Farmland in 2004, Average and Low Costs, Illinois Farm Business Farm Management.

	Average Costs[1]		Low 1/3 Costs[2]	
	Corn	Soybeans	Corn	Soybeans
Expenses	---------- $ per acre ----------			
Fertilizer	$54	$19	$50	$17
Pesticides	33	30	29	25
Seed	34	21	32	19
Drying	10	0	6	0
Storage	7	3	2	2
Crop insurance	8	5	8	5
Total direct expense	$146	$78	$127	$68
Machine hire/lease	$7	$4	$4	$4
Utilities	4	4	4	4
Machine repair	14	13	13	12
Fuel and oil	9	8	8	7
Light vehicle	1	1	1	1
Mach. depreciation	30	25	28	23
Total power expense	$65	$55	$58	$51
Hired labor	$8	$8	$8	$8
Building repair and ren	3	3	2	2
Building depreciation	5	5	4	4
Insurance	5	5	5	5
Misc.	4	4	3	3
Interest	5	5	4	4
Total overhead exp.	$30	$30	$26	$26
Total expenses	$241	$163	$211	$145

[1] Based on the average costs of grain farms having high productivity farmland who are enrolled in Illinois Farm Business Farm Management.

[2] Based on costs from the 1/3 grain farms with the lowest costs having high productivity farmland who are enrolled in Illinois Farm Business Farm Management.

Table 2. Returns to Farmers and Landlords Under Different Leases and Price Scenarios, Central Illinois, Forecasts for 2004 and 2005.

	2004 Crop Year Forecast in Feb 04 [1]	2004 Crop Year Forecast in August 04 [2]	2005 Crop Year Forecast [3]	Avg. Yields and Loan Rate Prices [4]
Panel A. Farmer Returns Given Average Costs				
	---------- $ per acre ----------			
Share Rent	52	57	43	36
Cash Rent of $140 per acre	54	64	36	22
$160 per acre	34	44	16	2
$180 per acre	14	24	-4	-18
$200 per acre	-6	4	-24	-38
Panel B. Farmer Returns Given Low 1/3 Costs				
	---------- $ per acre ----------			
Share Rent	69	74	60	53
Cash Rent of $140 per acre	78	88	60	46
$160 per acre	58	68	40	26
$180 per acre	38	48	20	6
$200 per acre	18	28	0	-14
Panel C. Landlord Returns				
	---------- $ per acre ----------			
Share Rent Given Average Costs	112	117	103	96
Share Rent Given Low 1/3 Costs	119	124	110	103
Cash Rent of $140 per acre	110	110	110	110
$160 per acre	130	130	130	130
$180 per acre	150	150	150	150
$200 per acre	170	170	170	170

[1] Uses a $2.50 cash corn price, $6.40 cash soybean price, and five-year average yields for central Illinois (160 bu. corn, 50 bu. soybeans).

[2] Uses a $2.05 cash corn price, $5.60 cash soybean price, and above average yields (184 bu. corn, 55 bu. soybeans).

[3] Uses a $2.25 cash corn price, $5.50 cash soybean price, and five-year average yields for central Illinois (160 bu. corn, 50 bu. soybeans).

[4] Uses a $2.05 cash corn price, $5.25 cash soybean price, and five-year average yields for central Illinois (160 bu. corn, 50 bu. soybeans).

Table 2), a decline of $28 per acre. The $160, $180, and $200 cash rents also have declines of $28 per acre between the 2004 forecast and the 2005 forecast. Cash rents of $180 and $200 per acre generate farmer returns of -$4 and -$24, respectively. Using $28 of return as a benchmark, farmer returns for cash rents of $140 and $160 per acre exceed the $28 benchmark.

Farmer returns are considerably higher for the low 1/3 cost scenario (see Panel B of Table 2). For share rent arrangements, farmer returns are $17 per acre higher under the low 1/3 scenario compared to the average scenario. For example, the 2005 forecast for share rent arrangements is $60 per acre under the low 1/3 costs, which is $17 lower than the $43 forecast for the average cost scenario.

For cash rent arrangements, farmer returns are higher by $24 per acre under the low 1/3 scenario compared to the average scenario. As a result, fewer cash rents generate negative returns. Based on 2005 forecasts, a $200 cash rent generates a $0 for the low one-third cost scenario. In comparison, negative returns are generated for the $180 cash rent (-$4 per acre) and $200 cash rent (-$24 per acre) for the average cost scenario. A farmer in the low 1/3 cost area can bid more for cash rents than a farmer with average costs and generate the same return. In the above case, a low 1/3 cost farmer can bid $24 per acre more than an average cost farmer and still generate the same return.

Landlord returns are shown in Panel C of Table 2. Returns for share rent arrangements depend on the cost structure of the farm. For 2005, landlord returns are projected to be $103 for the average cost scenario and $110 for the low 1/3 cost scenario. Cash rent returns, which are net of a $30 per acre property tax, do not depend on the farm's cost structure or the yield and price scenario.

Summary

Farmer and landlord returns are projected for 2004 and 2005 for high-quality farmland in central Illinois. Returns are projected to decrease by $14 for share rent arrangements and $24 per acre for cash rent arrangements. These projections suggest that caution should be used when making cash rent bids for the 2005 crop year. Returns forecasts for 2005 are lower than 2004 and, hence, do not support an increase in cash rents.

Individual farmer results will vary from those shown above. Costs structures and yields can vary tremendously across farms. Hence, the above results should be viewed of indicative of trends between 2004 and 2005 rather than projections for a specific farm.

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