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Projected 2016 Crop Returns: Continuing Need to Adjust to Lower Returns

Gary Schnitkey

Department of Agricultural and Consumer Economics
University of Illinois

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The first version of the *2016 Illinois Crop Budgets* is available for download from the management section of *farmdoc* (click here for budgets). As is detailed in the "Commentary" section of this paper, three implications are drawn from 2016 projections. First, cash flows will need to be reduced even if corn prices are above $4.00 per bushel. Two, cash rent reductions of about 30% from average 2014 levels are needed to generate farmer returns roughly the same as from 2000 to 2005. Third, keys to watch will be announcements of 2016 input prices by seed, fertilizer, and chemical input manufacturers. If these prices are at 2015 levels, adjustments to lower commodity prices must predominately come by lowering returns to farmers and landowners.

Comparison of 2016 Budgets to 2014 and 2015 Values

Budgets are given for corn, soybeans, wheat, and double-crop soybeans grown in northern, central, and southern Illinois. Central Illinois is further divided into categories for high and low productivity farmland. Table 1 shows 2016 budgets for corn and soybeans grown in central Illinois on high-productivity farmland (history back to 2009 is provide here). The *2015 Crop Budgets* break out corn production into corn-after-soybeans and corn-after-corn production. In Table 1, only corn production is shown, which is a weighted average of corn-after-soybeans and corn-after-corn production. Similarly, the *2015 Crop Budgets* break out soybean production into soybeans-after-corn and soybeans-after-two-years-corn while Table 1 reports a weighted average of those soybean budgets.

Several notes about the construction of 2016 budget:

- 2016 yields in central Illinois for high-productivity farmland are projected at 198 bushels per acre for corn and 58 bushels per acre for soybeans. These yields build in a trend increase to historically observed yields. The 2015 yields are being held at 196 bushels per acre for corn and 57 bushels per acre for soybeans. The 2015 yields are at expectations. At this point, it is difficult to determine whether yields will be above or below expectations for 2015. Clearer indications of 2015 yields will be obtained in August.

Table 1. 2016 Budgets with Comparisons to 2014 and 2015, Central Illinois Farmland with High Productivity

	Corn			Soybeans		
	2014	2015P	2016P	2014	2015P	2016P
Yield per acre	231	196	198	64	57	58
Price per bushel	$3.75	$4.20	$4.20	$10.25	$10.00	$10.00
Crop revenue	$866	$823	$832	$656	$570	$580
ARC/PLC or ACRE	2	25	20	0	10	10
Other govt payments	0	0	0	0	0	0
Crop insurance proceeds	10	0	0	5	0	0
Gross revenue	**$878**	**$848**	**$852**	**$661**	**$580**	**$590**
Fertilizers	163	148	138	59	49	45
Pesticides	60	60	60	40	40	40
Seed	119	124	123	76	78	77
Drying	23	23	23	1	1	1
Storage	5	5	5	4	4	4
Crop insurance	27	27	27	18	18	18
Total direct costs	**$397**	**$387**	**$376**	**$198**	**$190**	**$185**
Machine hire/lease	11	11	11	9	9	9
Utilities	5	5	5	4	4	4
Machine repair	24	25	25	21	22	23
Fuel and oil	24	20	20	21	21	21
Light vehicle	2	2	2	1	1	1
Mach. depreciation	66	69	69	60	63	63
Total power costs	**$132**	**$132**	**$132**	**$116**	**$120**	**$121**
Hired labor	17	18	19	15	16	16
Building repair and rent	7	8	8	5	5	5
Building depreciation	6	7	7	10	11	11
Insurance	10	10	10	10	10	10
Misc.	8	8	8	8	8	8
Interest (non-land)	11	11	12	10	10	11
Total overhead costs	**$59**	**$62**	**$64**	**$58**	**$60**	**$61**
Total non-land costs	**$588**	**$581**	**$572**	**$372**	**$370**	**$367**
Operator and land return	**$290**	**$267**	**$280**	**$289**	**$210**	**$223**

- Projected prices for both 2015 and 2016 are $4.20 per bushel for corn and $10.00 for soybeans. On July 5th, cash bids for 2015 fall delivery in central Illinois are near $4.00 per bushel for corn and $9.80 for soybeans. Relative to current market levels, the prices used in 2015 budgets are optimistic. Similarly, the $4.20 corn price and $10.00 soybean price are relatively optimistic for 2016. Current 2016 fall delivery prices are near $4.00 per bushel for corn and $9.25 per bushel for soybeans.

- Fertilizer costs for corn in 2016 are projected at $138 per acre, down slightly from the $148 level projected for 2015. At this point, fertilizer prices for 2016 have not been released. The cost decrease is based on two assumptions. First, there will be some softness in fertilizer prices. Two, farmers will cut back on fertilizer consumption due to projected low returns.

- Seed costs for corn in 2016 are projected at $123 per acre, down $1 per acre from 2015 projected levels. At the point of the release of these budgets, seed prices for 2016 have not been released. The cost decrease is based on the assumptions of 1) relatively stable seed prices and 2) farmers switching to lower cost hybrids and varieties and reducing seeding rates.

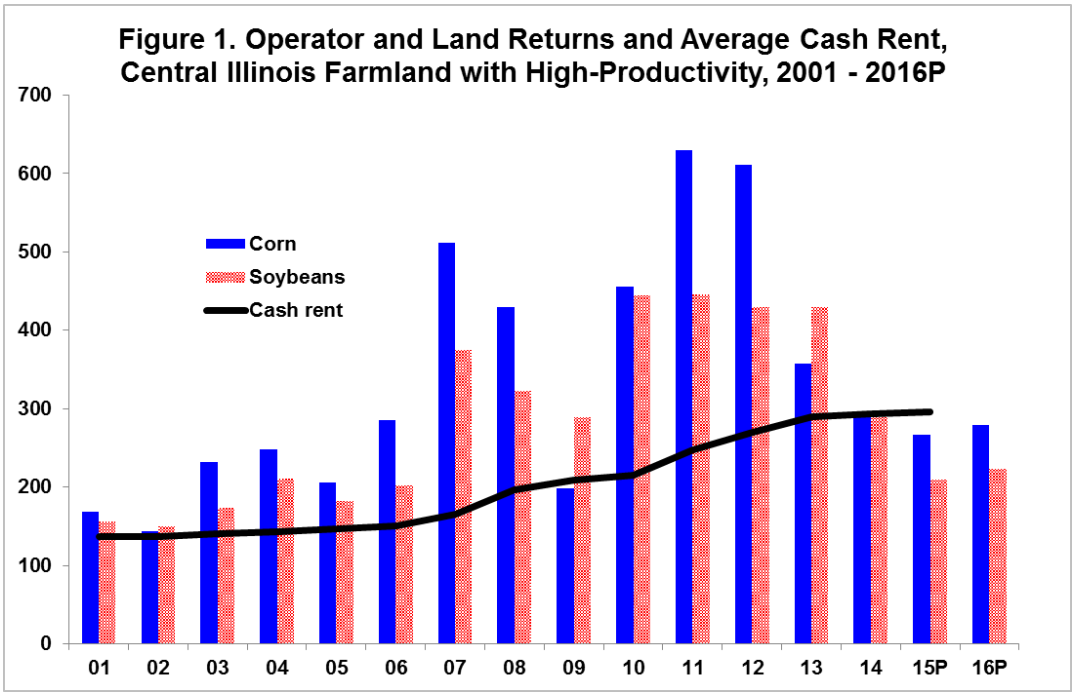
- Machinery depreciation for corn in 2015 hold constant at $69 per acre. Stable depreciation assumes that farmers reduce machinery purchases in 2015, leading to a non-decrease in machinery depreciation in 2016.

Given the above, non-land costs for 2016 are projected at $572 per acre for corn and $367 per acre for soybeans, down from 2015 levels. If these projections hold, 2016 will be the third straight year of non-land cost reductions. Non-land costs reached a high in 2013 of $615 per acre for corn and $372 per acre for soybeans. Projected 2016 non-land costs are 7% lower than 2013 levels for corn and a 1% lower for soybeans.

Operator and Land Returns

Operator and land returns in 2016 are projected at $280 per acre for corn and $223 per acre for soybeans. For a 50% corn and 50% soybean split, the operator and land return is $251 per acre. If farmland is cash rented, the operator and land return is the amount to split between then landowner and farmer. If cash rents are above $251 per acre, the farmer will face loses. If the farmer owns the farmland, the $251 operator and land return is available for paying property taxes, servicing farmland debt, and providing return to farmers.

If 2016 returns hold as projected in Table 1, farmers will have a third-straight year of losses on farmland that is cash rented at average levels (see Figure 1). In 2014, operator and land returns were below average cash rents by small amounts. In 2015, operator and land returns are projected below cash rents, indicating that farmers will have losses on cash rent farmland when rent levels are near average. Cash rent negotiations for 2016 rents will play a large part in determining farmer returns for 2016.



Commentary on Operator and Land Returns

- Corn and soybean prices in the budgets generally would be viewed as slightly below what is likely to be long-run average. Note that cash flows need to be lowered even at prices of $4.20 per bushel for corn price and $10 per bushel for soybean. Prices below $4.00 per bushel for corn are not needed to result in cash flow difficulties.

- Over time, farmers need to generate positive returns. A $40 per acre return to a farmer is near the average from 2000 to 2005. Given a $251 projected operator and land return for 2016, this would suggest cash rents need to be below $211 per acre ($251 operator and land return - $40 farmer return). In 2014, average cash rents for central Illinois farmland with high-productivity were $293 per acre. A $211 per acre cash rent translates into an $82 per acre reduction in cash rent, or 28% decrease in cash rents.

- The need to lower cash rents would be reduced if 2016 input prices are lower for seed, fertilizer, and pesticides. Keys to watch are first releases of input prices for 2016. If input prices are at or above 2015 levels, the vast majority of adjustments will need to come from lower farmer and landowner returns.

Summary

Projected 2016 budgets suggest the need to reduce cash flow, leading to a difficult planning period for 2016 crop production. Input price releases will determine the need to reduce cash rents for 2016.

The 2016 Illinois Crop Budgets will be updated as more information on commodity and input prices become available.

References

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