

**July 11, 2006****FEFO 06-11****Cost Increases: Its Not Just Energy**

Recent attention has focused on how rising energy prices have increased grain production costs. However, energy is not the only factor causing cost increases. Of the \$50 increase in per acre costs between 2003 and 2005, less than half are directly attributable to rising energy prices.

**Data**

Data for evaluating per acre cost increases comes from Illinois Farm Business Farm Management (FBFM). Data are summarized for grain farms in the northern, central, and southern Illinois from 2000 through 2005 in *Grain Farm Returns and Costs, 2006*, available in the management section of *farmdoc* (see per acre returns and costs in the management section at [www.farmdoc.uiuc.edu](http://www.farmdoc.uiuc.edu)).

Costs used here are taken from the tables in *Grain Farm Returns and Costs, 2006* entitled “Per Acre Operator and Farmland Returns”. These costs represent averages across all crops grown within their respective regions. Costs represent financial costs. Opportunity charges for unpaid labor, equity capital, and management are not included. Land costs are represented by average cash rents in the respective regions. Costs are stated for 2003 (the year before energy costs began to rise rapidly) and 2005 (the last year for which actual farm data is available).

Per acre costs are divided into “energy sensitive costs” and “energy non-sensitive costs”. Energy sensitive costs are those whose prices are directly influenced by changes in energy prices. Energy sensitive costs include fertilizer (nitrogen fertilizer is impacted by natural gas prices), fuel and oil, drying (drying is impacted by natural gas and propane prices), and utilities. The remaining costs are placed in the non-sensitive category.

**Cost Increases between 2003 and 2005**

For northern Illinois grain farms, per acre financial costs have increased from \$349 per acre in 2003 up to \$399 in 2005, an increase of \$50 per acre (see Table 1). Since 1980, no other two-year period has had as large an increase in costs as between 2003 and 2005.

Of the \$50 increase, energy-related items account for \$22 per acre, or 44 percent of the cost increase (see Table 1). Fertilizer is the leading cost increase category, with a \$16 per acre increase between 2003 and 2005. Fuel and oil costs increased \$6 per acre between 2003 and 2005.

Energy non-sensitive costs have increased by \$28 per acre from 2003 and 2005. Costs with large per acre increases include cash rent (\$7 per acre increase), seed (\$6 increase), pesticides (\$3 increase), and interest (\$3 increase).

**Table 1. Per Acre Financial Costs Divided into Energy and Non-energy Sensitive Categories, Northern Illinois Grain Farms Enrolled in FBFM, 2003 and 2005.**

	Year				Year		
	2003	2005	Change		2003	2005	Change
<b>Energy Sensitive Costs</b>				<b>Energy Non-sensitive Costs</b>			
Fertilizer	\$38	\$54	\$16	Cash rent	\$130	\$137	\$7
Fuel and oil	10	16	6	Seed	31	37	6
Drying	8	8	0	Pesticides	35	38	3
Utilities	4	4	0	Interest	12	15	3
<b>Total (energy)</b>	<b>\$60</b>	<b>\$82</b>	<b>\$22</b>	Crop insurance	5	7	2
				Machine repair	15	17	2
				Machinery depreciation	19	20	1
				Hired labor	7	8	1
<b>Total financial costs</b>	<b>\$349</b>	<b>\$399</b>	<b>\$50</b>	Building repair	3	4	1
				Insurance	7	8	1
				Storage	3	4	1
				Machine hire/repair	11	11	0
				Light vehicle	2	2	0
				Building depreciation	4	4	0
				Misc	5	5	0
				<b>Total (non-energy)</b>	<b>\$289</b>	<b>\$317</b>	<b>\$28</b>

Source: Costs are taken from Illinois Farm Business Farm Management as reported in *Grain Farm Returns and Costs in Illinois, 2006*, Department of Agricultural and Consumer Economics, University of Illinois, July 2006, available in the Management section of *farmdoc* from the "per acre returns and costs" section ([http://www.farmdoc.uiuc.edu/manage/grain\\_farm\\_returns\\_costs.pdf](http://www.farmdoc.uiuc.edu/manage/grain_farm_returns_costs.pdf)).

Northern Illinois is not unique. Central Illinois grain farms have cost increases of \$42 per acre, with 47% of the increase coming from energy sensitive items (see panel A of Table 2). Southern Illinois grain farms have cost increases of \$69 per acre, with 34% coming from energy sensitive items (see panel B of Table 2).

### Implications

Energy sensitive costs have the possibility of declining in the future if prices for oil and natural gas decrease. At this time, energy price decreases seem unlikely. However, oil and natural gas are commodities and commodity prices are notoriously sensitive to supply and demand changes. In the future, energy prices could decline with findings of new supplies or reductions in demand. Declines in energy prices are not unprecedented, as illustrated by energy prices during the 1970s through the 1990s.

Production costs that are not as energy sensitive such as cash rents, seeds and pesticides have less chance of declining. The increases in the non-sensitive cost categories signal a general, permanent higher level of costs. This higher level of costs introduces heightened risks, as revenue declines could lead to lower levels of income than in previous years.

So far, corn and soybean prices appear like they will be higher in 2006 than in recent years. Given cost increases, these higher levels of prices do not necessarily signal higher profitability to grain farms. Overall, higher revenue caused by rising prices may counter cost increases, leaving per acre returns near recent levels.

**Table 2. Per Acre Financial Costs Divided into Energy and Non-energy Sensitive Categories, Illinois Grain Farms Enrolled in FBFM, 2003 and 2005.**

**Panel A. Central Illinois (High-Productivity Farmland).**

	Year		Change		Year		Change
	2003	2005			2003	2005	
<b>Energy Sensitive Costs</b>				<b>Energy Non-sensitive Costs</b>			
Fertilizer	\$39	\$54	\$15	Cash rent	\$140	\$147	\$7
Fuel and oil	9	14	5	Seed	30	36	6
Drying	6	6	0	Pesticides	33	37	4
Utilities	4	4	0	Storage	4	7	3
<b>Total (energy)</b>	<b>\$58</b>	<b>\$78</b>	<b>\$20</b>	Crop insurance	5	7	2
				Machine repair	13	14	1
				Machinery depreciation	18	19	1
				Hired labor	8	9	1
<b>Total financial costs</b>	<b>\$351</b>	<b>\$393</b>	<b>\$42</b>	Light vehicle	2	2	0
				Building depreciation	3	3	0
				Building repair	3	3	0
				Insurance	8	8	0
				Misc	6	6	0
				Machine hire/repair	7	6	-1
				Interest	13	11	-2
				<b>Total (non-energy)</b>	<b>\$293</b>	<b>\$315</b>	<b>\$22</b>

**Panel B. Southern Illinois.**

	Year		Change		Year		Change
	2003	2005			2003	2005	
<b>Energy Sensitive Costs</b>				<b>Energy Non-sensitive Costs</b>			
Fertilizer	\$38	\$57	\$19	Cash rent	\$82	\$98	\$16
Fuel and oil	11	17	6	Pesticides	29	37	8
Drying	3	3	0	Seed	29	36	7
Utilities	5	4	-1	Machinery depreciation	18	23	5
<b>Total (energy)</b>	<b>\$57</b>	<b>\$81</b>	<b>\$24</b>	Machine repair	16	19	3
				Crop insurance	5	7	2
				Building repair	2	4	2
				Building depreciation	3	4	1
<b>Total financial costs</b>	<b>\$283</b>	<b>\$352</b>	<b>\$69</b>	Misc	4	5	1
				Interest (non-land)	11	12	1
				Storage	1	2	1
				Machine hire/repair	7	7	0
				Light vehicle	1	1	0
				Hired labor	12	11	-1
				Insurance	6	5	-1
				<b>Total (non-energy)</b>	<b>\$226</b>	<b>\$271</b>	<b>\$45</b>

Source: Costs are taken from Illinois Farm Business Farm Management as reported in *Grain Farm Returns and Costs in Illinois, 2006*, Department of Agricultural and Consumer Economics, University of Illinois, July 2006, available in the Management section of *farmdoc* from the "per acre returns and costs" section ([http://www.farmdoc.uiuc.edu/manage/grain\\_farm\\_returns\\_costs.pdf](http://www.farmdoc.uiuc.edu/manage/grain_farm_returns_costs.pdf)).

## Acknowledgments

Data used in this study comes from the local Farm Business Farm Management (FBFM) Associations across the State of Illinois. Without their cooperation, information as comprehensive and accurate as this would not be available for educational purposes. FBFM, which consists of 6,000 plus farmers and 60 professional field staff, is a not-for-profit organization available to all farm operators in Illinois. FBFM field staff provides on-farm counsel with computerized recordkeeping, farm financial management, business entity planning and income tax management. For more information, please contact the State FBFM Office located at the University of Illinois Department of Agricultural and Consumer Economics at 217-333-5511 or visit the FBFM website at [www.fbfm.org](http://www.fbfm.org).

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