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Costs and Grain Farm Size

A commonly held notion is that per acre costs decrease as number of acres farmed increase. There is little empirical support for this contention.

Figure 1 shows per acre costs for grain farms enrolled in Illinois Farm Business Farm Management (FBFM). Each dot shows per acre costs averaged over four years between 1996 and 1999. Total costs include cash costs as well as imputed charges for unpaid labor and equity capital invested in the farming operation. Farms shown in Figure 1 receive the majority of their income from grain sales and farm “high quality” farmland.

The most striking feature of Figure 1 is the wide variation in costs. Per acre costs range from a low of \$262 per acre up to a high of \$515 per acre. This range in costs occurs across all farm sizes. For example, 20 percent of the farms have costs below \$340 per acres. Farms between 500 and 800 acres achieve costs below \$340 as well as farms above 1,200 acre.

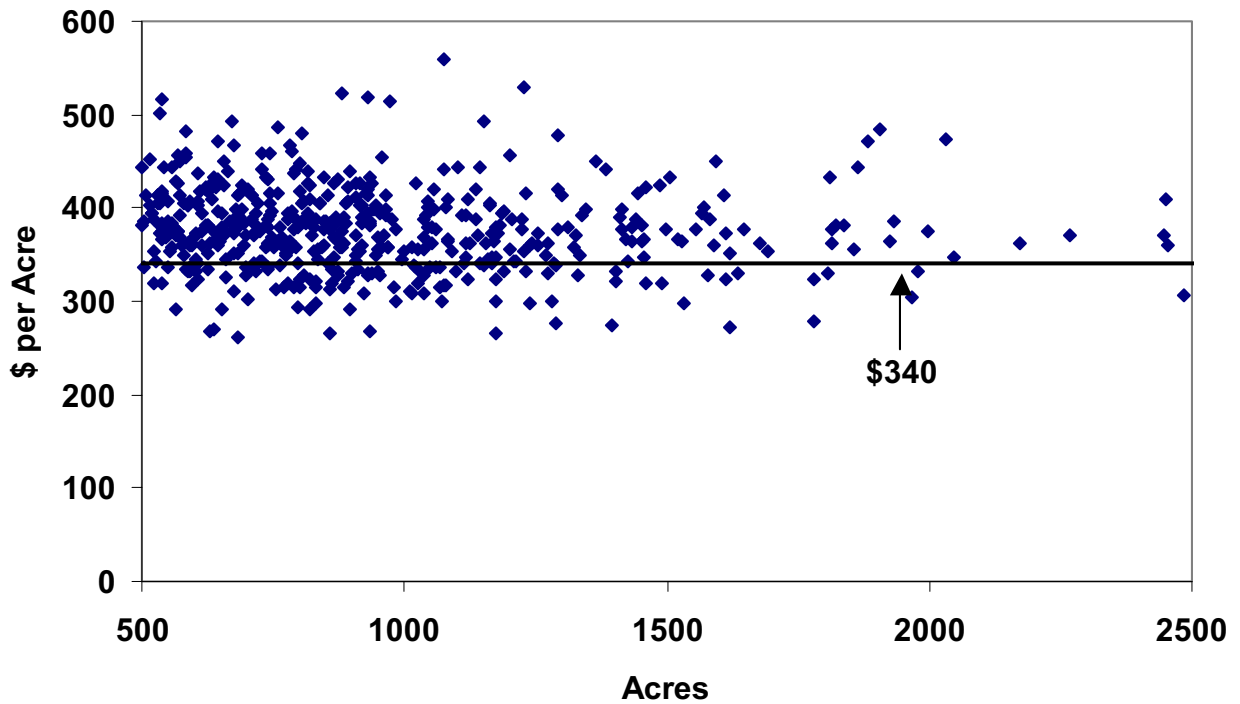
Contrary to the first impression given by Figure 1, there is a downward trend in average costs as farm size increases. Farms having between 500 and 800 acres average \$385 per acre of total costs. Average total costs decline by \$12 per acre to \$372 per acre for farms having between 800 and 1,200 acres. Farms over 1,200 acres average \$371 of costs, about the same average costs as the 800 to 1,200 acre size category.

Costs and farm size have a number of implications:

1. Expanding farms will not necessarily see reductions in per acre costs. Per acre costs for an expanding farm should not be lowered when preparing financial projections.
2. The sizable range in costs suggests that farmers should continue to emphasize cost control. Many farms could significantly increase income by reducing per acre costs. The range in Figure 1 likely understates the true range in costs across farms. Farms enrolled in FBFM likely are some of the better-managed farms in the state. Including below average farms would likely increase the higher end of the cost range.
3. Costs do not increase as farm size increase. Given that revenue is above costs, net income will increase as farm size increases. This powerful incentive to expand a farm will likely continue to increase farm size into the foreseeable future.

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Figure 1. Per Acre Costs and Farm Size, Illinois Grain Farms, 1996 -- 1999.



Source: Illinois Farm Business Farm Management