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Agricultural, Consumer & Environmental Sciences | University of Illinois Urbana-Champaign

Weekly Farm Economics: Historic Cost Declines After Price Declines

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November 22, 2022

***farmdoc daily* (12): 177**

Recommended citation format: Schnitkey, G., C. Zulauf, N. Paulson, J. Coppess, and J. Baltz. "Historic Cost Declines After Price Declines." *farmdoc daily* (12): 177, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, November 22, 2022.

Permalink: https://farmdocdaily.illinois.edu/2022/11/historic-cost-declines-after-price-declines.html

Corn prices declined from high levels in 2012 to much lower levels in 2013 through 2019. In this article we examine production cost declines which occurred after the 2012 price decline. Costs did decline, but not until farmer returns were negative.

Cost Decreases from 2012 to 2015-2020

The brown line in Figure 1 shows corn prices. Corn prices have distinct periods. From 2000 to 2005, corn prices received by central Illinois farms averaged $2.18 per bushel. Due to growth in corn use in ethanol production, prices rose and averaged $4.70 from 2006 through 2013. Corn price hit its high in 2012 at $6.93 per bushel. From the $6.93 high, prices declined, reaching a low of $3.49 in 2016. The average corn price from 2014 to 2019 was $3.64 per bushel. In recent years, corn prices rose to $4.34 in 2020, $5.90 in 2021, and a projected $6.40 in 2022. Current fall bids suggest a price of $5.50 in 2023.

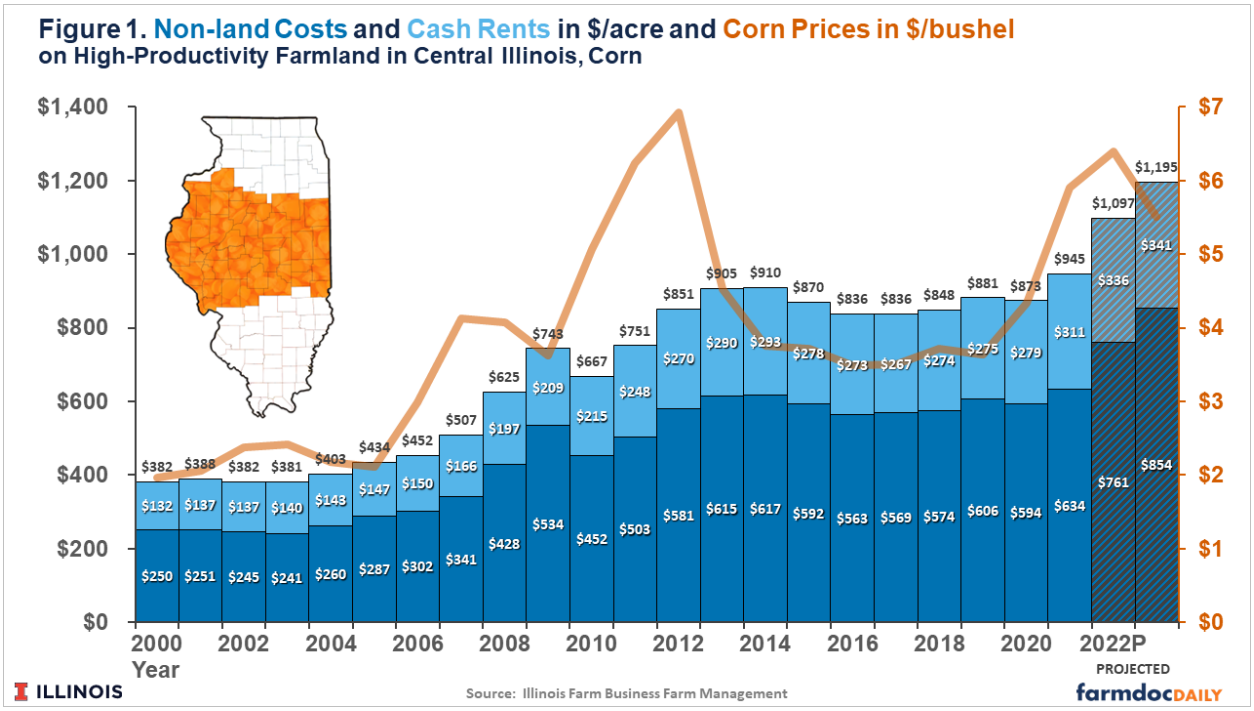


Figure 1 also breaks down total costs into two components:

1. Non-land costs which include direct costs (fertilizer, seed, pesticides, etc.), power costs (machinery repairs, machinery depreciation, etc.), and overhead costs (interest, etc.). A complete breakdown of costs is shown in our *Revenue and Costs of Growing Illinois Crops* publication.

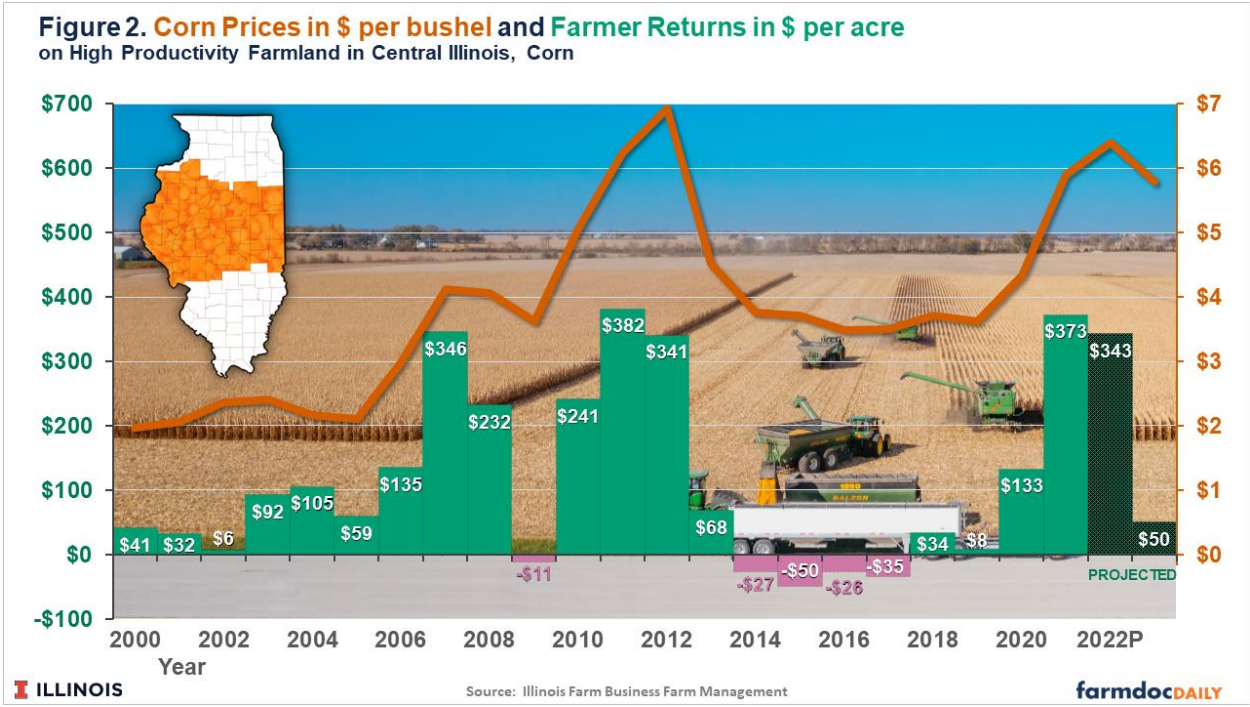
2. Cash rent. This is the average cash rent paid by central Illinois farms on high-productivity farmland.

Both non-land costs and cash rents follow corn prices in a lagged fashion. As corn prices increased from 2006 to 2012, non-land costs increased from $287 per acre in 2005 to $581 per acre in 2012. Non-land costs continued to increase in 2013 and 2014, reaching $617 per acre in 2014. Cash rents increased from $147 per acre in 2005 to $270 per acre in 2012. Like non-land costs, cash rents increased in 2013 and 2014, reaching $293 per acre in 2014.

The sum of non-land costs and cash rents is total costs. Total costs increased from $434 per acre in 2005 to $910 per acre in 2014, an increase of 109%.

After 2015, both non-land costs and cash rents decreased. From 2015 to 2020, non-land costs averaged $583 and cash rents averaged $274 per acres. Total costs from 2015 to 2020 averaged $857, a decline of $53 from the $910 high in 2014.

Costs declines began in 2015. Farmer returns were negative in 2014, the year before cost began to decline, and remained negative to 2017 (see Figure 2). Negative returns likely were a contributing factor to cost declines.



Implications for the Future

We have again seen corn prices increase, reaching $6.40 per bushel in 2022. Costs also have increased from a total of $873 per acre in 2020 to $1,097 in 2022, an increase of $225 per acre. We are projecting a lower price in 2023 of $5.50 per bushel while costs are projected to increase another $98 to $1,195 per acre in 2023. Much could happen before harvest in 2023, and prices could vary dramatically from projections. Still, 2023 currently looks like an analogous year to 2013. Using history as a guide, costs will not decline until prices are lowered for several years and negative farmer returns occur.

Those reactions will be in the future. Many farmers have built capital and financial resources in the past several years (see *farmdoc daily*, November 15, 2022). Those resources will serve useful in future years.

References

Schnitkey, G., C. Zulauf, N. Paulson and J. Baltz. "Grain Farm Income Projections for 2022 and 2023." *farmdoc daily* (12):172, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, November 15, 2022.

Schnitkey, G. and K. Swanson. "Revenue and Costs for Illinois Grain Crops, Actual for 2016 through 2021, Projected 2021 and 2022." Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, August 2022.