



Forecast of 2017 Net Income on Grain Farms in Illinois

Gary Schnitkey

Department of Agricultural and Consumer Economics
University of Illinois

August 15, 2017

farmdoc daily (7):148

Recommended citation format: Schnitkey, G. "Forecast of 2017 Net Income on Grain Farms in Illinois." *farmdoc daily* (7):148, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, August 15, 2017.

Permalink: <http://farmdocdaily.illinois.edu/2017/08/forecast-2017-net-income-grain-farms-illinois.html>

Net incomes on Illinois grain farms are forecast for 2017 using recently released yield estimates by U.S.D.A. (see [Crop Production](#)) and 2017 prices projected by University of Illinois economists during an [August 11, 2017 webinar](#). Forecast 2017 net incomes are down from 2016 levels primarily due to lower yields. Decreases in non-land costs should partially offset revenue declines from lower yields. U.S.D.A. yield estimates for Illinois are above trend levels and could decline due to dry August weather. Reductions in yields will result in lower incomes if no positive price response occurs. As always, net incomes will vary across Illinois, with areas of lower yields facing lower incomes.

Changes in Yields, Prices, Revenues, and Costs

Incomes are estimated by first evaluating differences from 2016 to 2017 in yields, revenues and costs on a per acre basis. These items are summarized in Table 1 and represent averages for Illinois. The result of these calculations is to arrive at a difference in per acre income averaged across the state. Each acre is estimated to have -\$17 per acre of less income in 2017 than in 2016 (see the final line in Table 1). Items contributing to this reduction are described below.

Marketing gain: Most farmers prepare financial statement using modified costs method in which an inventory price is placed on unsold grain at the end of the calendar year. A marketing gain occurs when the average sales price is higher than the inventory price. Conversely, a marketing loss occurs when the sales price is lower than the inventory price. Marketing gains and losses can be large in some years (see *farmdoc daily*, [May 10, 2016](#), for more discussion).

For 2016, marketing gains occurred on most farms for corn and soybeans. Illinois Farm Business Farm Management (FBFM) used an end-of-the-year inventory price in 2015 of \$3.60 per bushel for corn. Farmers sold old-crop corn for an average of \$3.70 per bushel, resulting in a \$.10 marketing gain. For soybeans, the 2015 end-of-the-year inventory price was \$8.60 per bushel. Farmers sold old crop soybeans for \$9.68 per bushel resulting in a \$1.08 marketing gain. On a per acre basis, marketing gains for 2016 were estimated at \$14 per acre for corn and \$41 per acre for soybeans (see Table 1).

We request all readers, electronic media and others follow our citation guidelines when re-posting articles from *farmdoc daily*. Guidelines are available [here](#). The *farmdoc daily* website falls under University of Illinois copyright and intellectual property rights. For a detailed statement, please see the University of Illinois Copyright Information and Policies [here](#).

The end-of-year inventory prices for 2016 were \$3.30 per bushel for corn and \$9.80 per bushel for soybeans. U.S.D.A. is reporting 2017 sales prices of \$3.54 for corn and \$9.82 price for soybeans. In 2017, farmers likely have marketing gains on corn and marketing losses on soybeans. The 2017 marketing gains are estimated at \$35 per acre of corn and -\$3 per acre for soybeans.




Table 1. Differences in 2016 and 2017 Revenues and Costs Impacting Grain Farm Net Income

	Unit	Year		Difference ¹
		2016	2017	
Marketing gain				
Corn	\$/acre	\$14	\$35	\$21
Soybeans	\$/acre	\$41	-\$3	-\$44
Corn				
Yield	bu./acre	197	188	
Price	\$/bu.	\$3.45	\$3.65	
Revenue	\$/acre	\$680	\$686	\$7
Soybean				
Yield	bu./acre	59	58	
Price	\$/bu.	\$9.74	\$9.00	
Revenue	\$/acre	\$575	\$522	-\$53
ARC-CO / PLC payments				
	\$/acre	\$19	\$15	-\$4
Non-land costs				
Corn	\$/acre	\$576	\$553	-\$23
Soybeans	\$/acre	\$352	\$337	-\$15
Cash Rent				
	\$/acre	\$221	\$218	-\$3
Difference in income²				
Corn				\$50
Soybeans				-\$83
Average ³				-\$17

¹ Equals 2017 value minus 2016 value.

² For corn, equals corn marketing gain difference + corn revenue difference + ARC-CO difference - non-land cost difference - cash rent difference. A similar calculation is done for soybeans.

³ Simple average of corn and soybean differences in income.

The difference between 2016 and 2017 marketing gains are \$21 per acre for corn and -\$44 per acre for soybeans (see Table 1). The positive value for corn means that incomes will increase in 2017 due to a

change in marketing gains. The negative value for soybeans means that income will decrease in 2017 due to a change in marketing gains.

Corn Revenue: U.S.D.A. estimates 2017 corn yield in Illinois at 188 bushels per acre, down by 9 bushels from the 2016 level of 197 bushels per acre (see [Crop Production](#)). For 2016 crop, farmers averaged a \$3.45 per bushel price for corn while a \$3.65 per bushel price is projected for 2017 (see [PDF associated with August 11 webinar](#)). Given these prices and yields, corn revenue is projected at \$686 per bushel, down by \$6 per acre from the 2016 corn revenue of \$680 per acre.

Soybean Revenue: USDA estimates 2017 soybean yield in Illinois at 58 bushels per acre (see [Crop Production](#)). The 2017 projected yield is 1 bushel below the 2016 yield of 59 bushel per acre. Soybean price in 2016 was \$9.74 per bushel. University of Illinois economists suggest a \$9.00 per bushel price for 2017. Given these prices and yields, soybean revenue was \$575 per acre in 2016 and is projected at \$522 per acre in 2017. Soybean revenue is projected down by \$53 per acre in 2017.

ARC-CO payments: Agricultural Revenue Coverage at the county level (ARC-CO) payments are projected to average \$19 per acre for crop produced in 2016. These payments will vary widely across counties and will be received this fall. For 2017 crop, ARC-CO payments are projected to be \$15 per acre for 2017. ARC-CO payments are projected to be \$4 lower in 2017 than in 2016.

Note that these ARC-CO payments are received a year after production. In the fall of 2016, farmers and land owners received 2015 payments which averaged \$36 per acre. The ARC-CO payment received in the fall of 2017 will average about \$19 per acre, much lower than in 2016. While accrual income will differ little across years, cash flow from ARC-CO will be less in 2017.

Non-land costs and cash rents: Non-land costs are projected down in 2017 from 2016 levels by \$23 per acre for corn and \$15 for soybeans (see Table 1). A [July 25, 2017 farmdoc daily](#) article provides more detail on cost estimates. Cash rents in 2017 were down by \$3 from 2016 levels (see *farmdoc daily*, [August 8, 2017](#)).

Difference in income: Difference in incomes from 2017 as compared to 2016 are calculated for both corn and soybeans. Corn income is up by \$50 per acre while soybean income is projected down by \$83 per acre (see Table 1). Averaged over both corn and soybeans suggests that income will be down by \$17 per acre.

Projected 2017 Incomes

A \$17 decrease in per acre income results in lower projected 2017 per farm incomes as compared to 2016. Figure 1 shows average income for grain farms enrolled in Illinois Farm Business Farm Management (FBFM). These are per farm income. The -\$17 per acre difference suggests a 2017 net income of around \$60,000 per farm.

The \$60,000 per farm income would be lower than the 2016 income. If projections hold, the 2017 income would be the second lowest income since 2005. The only income since 2005 that is below \$60,000 occurred in 2015 when per farm net income was near \$0.

Commentary

U.S.D.A.'s August estimates of 2017 Illinois yields are above trend. The 188 bushel per acre estimate for corn is 9 bushels above trend (see Figure 2). The 58 bushel estimate for soybeans is 5 bushels above trend and would continue a string of five years above trend (see Figure 3). In Illinois, soybean yields have been remarkably high in 2014, 2015, and 2016. A 58 bushel yield in 2018 would continue the string of remarkably high soybean yields (see Figure 3).

August weather has yield impacts, particularly on soybeans. August weather so far has been drier than normal, suggesting that USDA yield estimates may be high (see *farmdoc daily*, [August 14, 2015](#)). Yield estimates could be lowered which would have a negative impact on 2017 income forecasts. Of course, positive price responses may occur because of lower expected yields, partially or totally mitigating lower expected yields.

This early forecast of 2017 incomes could change. Changes most likely will originate from differences in actual yields and actual prices from those used in forecasts. In my opinion, USDA yields used in forecasts may decline due to dry August weather. Time will tell if that is the case. Offsetting lower yields; however, could be positive price responses.

As always, there will be variability in net incomes across farms. Some farms will have above average incomes and vice versa. One would expect those areas in central and southern Illinois experiencing dry weather and drought will have lower yields and lower incomes. Those areas with excess moisture in northern Illinois could face lower yields and incomes as well. Crop insurance will aid in cushioning low yields, but farmers will face losses before crop insurance payments occur.

It seems safe to predict that 2017 net incomes will average lower than 2016 incomes. The only way lower incomes would not occur is if there are large, positive increases in corn and soybean prices. In some low yielding areas those incomes could be considerably lower than those changes shown here. Given lower 2017 incomes, some deterioration of working capital should be expected.

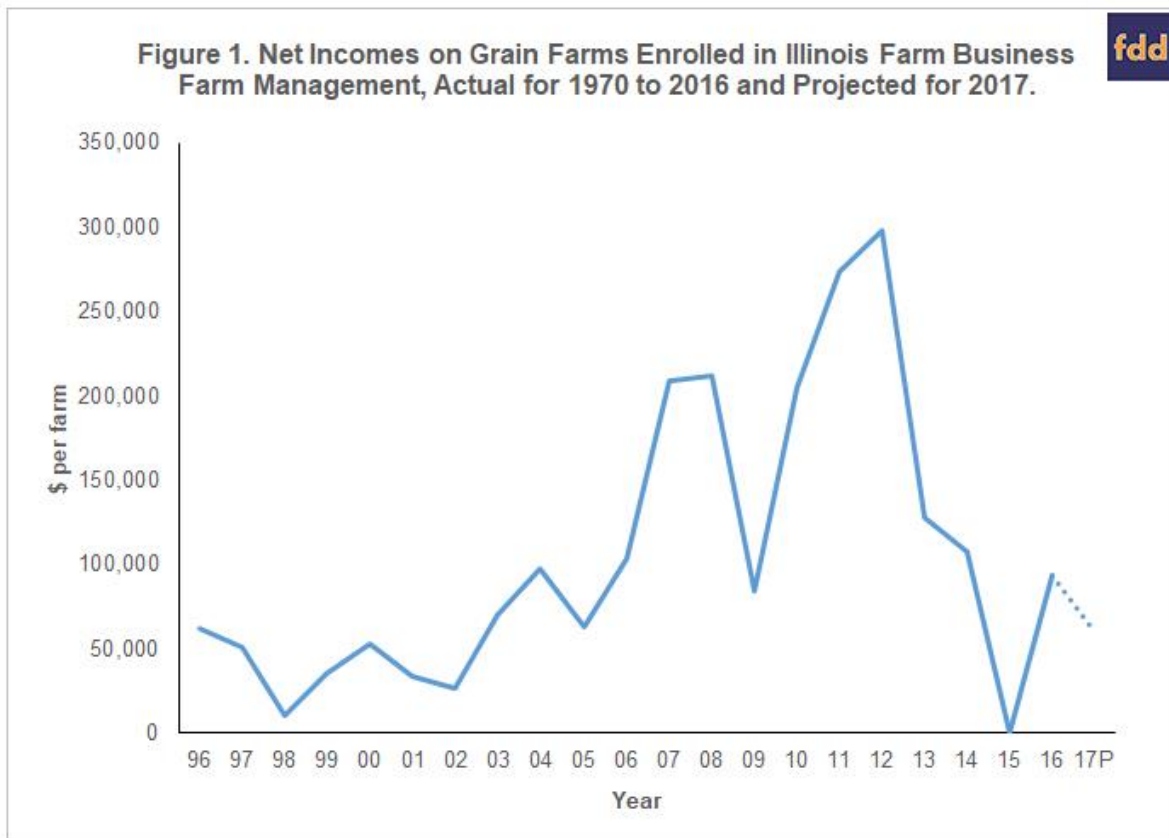
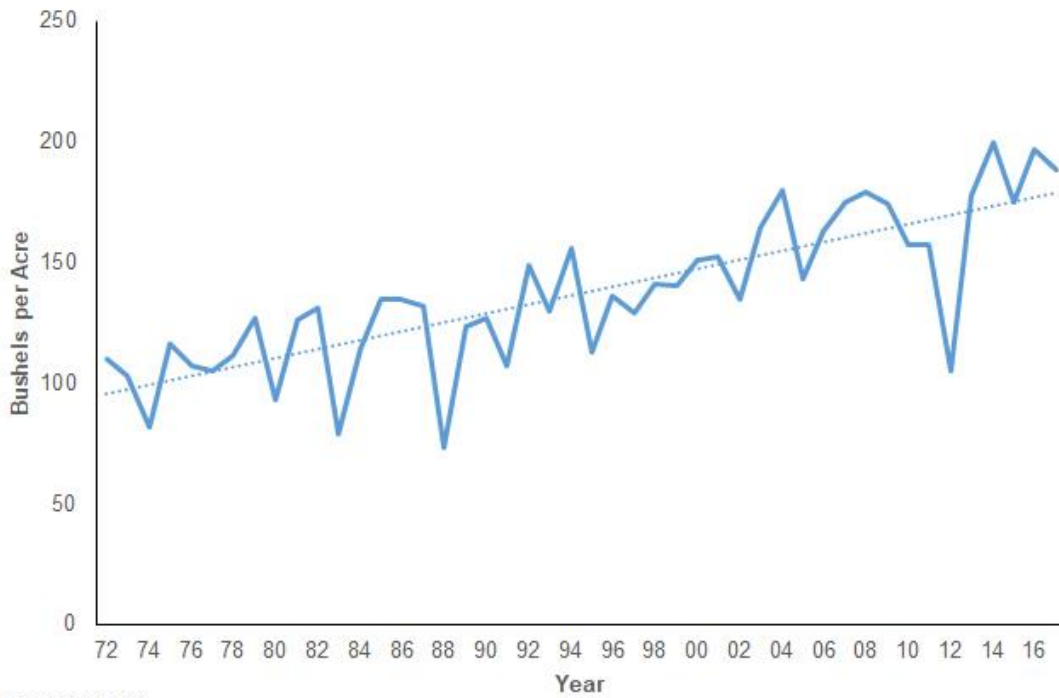


Figure 2. Illinois Corn Yields, Actual from 1972 to 2016 and Projected for 2017



Source: U.S.D.A.

Figure 3. Illinois Soybean Yields, Actual from 1972 to 2016 and Projected for 2017



Source: U.S.D.A.

References

- USDA, National Agricultural Statistics Service. *Crop Production*, Released August 10, 2017. <http://usda.mannlib.cornell.edu/usda/nass/CropProd//2010s/2017/CropProd-08-10-2017.pdf>
- Good, D. and T. Hubbs. "[Updated 2017-18 Supply/Demand/Price Prospects for Corn and Soybeans.](#)" *farmdoc* Webinar, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, August 11, 2017.
- Schnitkey, G. "[2016 Marketing Gain Impacts on Income Statements Will be Limited.](#)" *farmdoc daily* (6):89, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, May 10, 2016.
- Schnitkey, G. "[2018 Crop Budgets: More of the Same.](#)" *farmdoc daily* (7):134, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, July 25, 2017.
- Schnitkey, G. "[Illinois Farmland Rents: 2017 State Values and 2018 Outlook.](#)" *farmdoc daily* (7):143, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, August 8, 2017.
- Hubbs, T. "[Weekly Outlook: Corn and Soybean Yield Forecasts Larger Than Expected.](#)" *farmdoc daily* (7):147, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, August 14, 2017.