



Weekly Farm Economics: Commodity Prices Resulting in \$50,000 Net Farm Income

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Corn and soybean prices that result in \$50,000 of net farm income are estimated for a 1,200 acre farm in central Illinois. A \$3.70 per bushel for corn and \$8.51 per bushel for soybeans results in \$50,000 of net income on a grain farm that purchases crop insurance and owns 15 percent, share-rents 45 percent, and cash rents 40 percent of its farmland.

Farm situation

The \$50,000 benchmark net farm income roughly represents the average farm income during the late 1990s and early 2000s. During this period, many farms were "holding their own" financially, with some farms having deteriorating financial positions. Given today's cash flows, a \$50,000 net farm income would result in financial deterioration on many farms.

Table 1. Parameters Used to Estimate 2012 Farm Income.

Panel A. Production Items		Corn	Soybean
Yield	Bu. per acre	190	55
Non-land costs	\$ per acre	\$515	\$300
Crop insurance parameters			
Projected price	\$ per bushel	\$5.50	\$13.00
APH yield	Bu. per acre	190	52
Coverage level	Percent	80%	80%
Panel B. Land Base			
Farm acres	Total	1,200	
Percent:			
Owned	Percent	10%	
Cash rented	Percent	45%	
Share rented	Percent	45%	
Cash rent	\$ per acre	\$280	
Panel C. Debt outstanding:			
Operating	Total	\$300,000	
Intermediate	Total	\$180,000	
Long-term	Total	\$300,000	

Parameters of the farm are set to be typical of a grain farm in Illinois. The farm has 1,200 acres with two-thirds planted to corn and one-third planted to soybeans. Corn yield is 190 bushels per acre and soybean yield is 55 bushels per acre. Non-land costs are \$515 per acre for corn and \$300 per acre for soybeans and represent values approximately equal to costs in 2012 Illinois Crop Budgets (see Table 1).

The farm purchases Revenue Protection (RP) crop insurance at the 80 percent coverage level. The Actual Production History yields are 190 bushels for corn and 52 bushels for soybeans. Projected prices are set at \$5.50 for corn and \$13.00 for soybeans, anticipating these price levels for futures contracts during February 2012.

There are 1,200 tillable acres, with 15 percent owned, 40 percent share-rented, and 45 percent cash rented. These values are typical for grain farms in central Illinois. The cash rent is \$280 per acre (see Table 1).

Debt outstanding is \$300,000 for operating notes, \$180,000 for intermediate debt, and \$300,000 for long-term debt.

In determining prices, soybean price is kept at 2.3 times the corn price.

Commodity Prices for \$50,000 Net Farm Income

Commodity prices resulting in \$50,000 net farm income are \$3.70 per bushel for corn and \$8.51 for soybeans. Crop insurance is needed to having these break even commodity prices. If crop insurance is

not purchased, commodity prices resulting in \$50,000 net farm income are \$4.03 per bushel for corn and \$9.27 for soybeans. Significantly lower projected prices of \$5.50 for corn and \$13.00 for soybeans used in determining crop insurance guarantees will increase necessary commodity prices to obtain \$50,000 of income.

Chicago Mercantile Exchange futures prices for harvest-time contracts are near \$6.00 for corn and \$12.30 for soybeans, suggesting cash prices substantially above levels that would generate \$50,000 of incomes. At this point, futures prices point to strong 2012 income, given that costs and yields are near expectations.

While 2012 farm incomes are projected to be positive, commodity prices resulting in \$50,000 are within the realm of possibility. Several years of above average yielding years in the United States or around the world could result in near \$4.00 corn and \$9.00 per bushel soybean prices. Destruction in demand could also yield prices in this range.

Also note that the \$3.70 corn and \$8.51 soybean prices are well above prices that occurred prior to 2006. Between 1975 through 2005, corn prices averaged \$2.40 per bushel for corn and \$6.10 per bushel for soybeans. Commodity prices near these levels would cause financial stress today.

Impacts of Rental Arrangements on Break-Even Commodity Prices

Differences in rental arrangements also impact commodity prices necessary to generate \$50,000 net farm income. Higher levels of share rent lower prices while higher levels of cash rents increase prices. If the farm has 85 percent share rent and no cash rent, crop insurance purchases will guarantee the farm at least \$50,000 of net farm income. If the farm has 85 cash rent and no share rent, commodity prices resulting in \$50,000 of net farm income are \$3.72 per bushel for corn and \$8.56 for soybeans.

Farms that have all cash rent farmland without owning or share-renting farmland will have higher breakeven prices. Take the above example farm, but have it cash rent 100 percent of its farmland. At the same time, eliminate \$300,000 of long-term debt, which is presumed to finance a land purchase. In this case, a \$4.41 corn price and \$10.17 soybean price generates \$50,000 net farm income. Increasing the cash rent amount results in the following break-even prices:

\$4.42 per bushel for corn / \$10.17 per bushel for soybeans given \$280 per acre in cash rent,
\$4.65 for corn per bushel / \$10.70 per bushel for soybeans given \$320 per acre in cash rent,
\$4.89 for corn per bushel / \$11.25 per bushel for soybeans given \$360 per acre in cash rent.

Summary

For a typical farm, a \$3.70 per bushel for corn and \$8.51 per bushel for soybeans will generate \$50,000 of net farm income. The rental situation of the farm has a large impact on these break-even commodity prices. Renting more farmland using cash rental arrangements and having higher cash rents will increase break-even commodity prices.

Current commodity prices suggest that 2012 will be a profitable year. In the future, commodity prices close to those presented in this paper are likely to happen.