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Ask an Ag Economist

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Ask an Ag Economist

Farmland prices are setting records. Do economists know how much of this strong price appreciation is due to government policy such as ethanol mandates, subsidized crop insurance, direct payments, etc.?

THE WAY ECONOMISTS typically explain movements in farmland prices uses the “net present value method.” This method sums up the “discounted expected future earnings” from farmland and arrives at an estimate of what farmland is worth today. Discounting is the method used to adjust for inflation, because $10,000 paid out in five years has less value than $10,000 paid out today. Thus, the two key factors that determine land prices are expected future earnings and the rate at which futures earnings are discounted.

The net present value of the same earnings with a 3 percent discount rate is $8,333. This demonstrates that the low interest rate environment we are in has dramatically increased farmland prices.

Direct payments and crop insurance subsidies have each averaged about $40 per acre. The net present value of $40 per acre each year into the future is $666 using a 6 percent discount rate and $1,333 using a 3 percent discount rate, showing these two subsidies account for some fraction of land values. However, because farm subsidies have always been available, they did not contribute to the increase in land prices that we have seen in the last 10 years.

The growth in ethanol production has certainly contributed to land price increases because increased demand for corn has led to increased corn prices. If we attribute an $80 per acre increase in expected futures earnings from land because of ethanol then increased ethanol production contributed $2,000 per acre to the increase in land prices since 2005 if we use a 4 percent discount rate.

The average price of farmland in Iowa increased by almost $6,000 between 2005 and 2013, according to the Iowa Land Value Survey. While it is not possible to state precisely how much of this increase was due to increased earnings and how much was due to lower interest rates, it is clear that both have contributed significantly. One might not be too far wrong in attributing 50 percent of the increase in land values to lower interest rates and 50 percent to higher expected earnings.