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Land Rents: How High Will They Go and Who Gains?

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The outlook for corn and soybean farmers looks exceedingly bright because of continued strong growth in U.S. ethanol production. December corn futures contracts are trading above $3.80 through 2010. Soybean futures are trading above $7.50 through 2009. The reason for this price strength is that U.S. corn plantings are projected to exceed 93 million acres from 2008 and beyond because of strong demand.

Higher corn and soybean prices will affect Iowa agriculture in a number of ways. The first impact will be felt by land renters as they renew their contracts late this summer. Higher crop prices have increased the returns to crop production. These increased returns will translate into increased competition for land, which in turn will drive up land rents.

Calculating Potential Changes
An idea of the possible magnitude of the changes in land rent can be made by calculating the impact of higher commodity prices on the returns over variable costs of production. Farmers who are considering whether to expand their farming operations will generally bid no more than they expect to earn after paying variable expenses. Thus, the change in returns over variable costs due to higher prices provides a good guide to how land rents may change.

Recently, CARD researchers conducted a study on the likely impacts of expanded ethanol on corn and soybean prices. Results show corn prices of about $3.40 per bushel on average over the next five years and soybean prices of around $7.00 per bushel on average. Using current estimates of production costs and corn yields of 165 bushels per acre for corn following corn, 180 bushels per acre for corn following soybeans, and soybean yields of 55 bushels per acre following two years of corn, projected crop returns over variable costs of production would average around $315 per acre. If instead we use low commodity prices to reflect the recent past—$2.10 per acre for corn and $5.50 per acre for soybeans—returns over variable costs of production will average around $160 per acre.

At first glance, you might think that we should see land rents go up by the difference in per acre returns, which would imply that the average Iowa land rents would more than double given that the state-average land rent was approximately $140 per acre in 2006. However, the 2006 land rent includes expected benefits from government farm programs, including direct payments, loan deficiency payments, and countercyclical payments. If the 2007 farm bill looks much like the 2002 farm bill, and if higher prices are with us to stay, then Iowa farmers will receive only direct payments because prices will not fall low enough to trigger the other payments.

Direct payments average about $25 per planted acre in Iowa. The average payment received from marketing loans and countercyclical payments under the 2002 farm bill was approximately $35 per acre. Because farmers will receive direct payments under both high and low prices, the effect of these payments will be neutral to any increases in land rents. However, under high prices, farmers will receive $35 less in payments than before. Thus, Iowa farmers should expect to receive an additional $155 per acre from the market due to higher prices, and $35 less per acre in government payments due to higher prices. This nets out to an increase in returns of around $120 per acre. If Iowa land rents increase by $120 per acre, they would approach $300 per acre in many parts of the state. How likely is it that we will see $300-per-acre land rents in 2008? The answer depends on whether crop farmers can actually capture projected additional returns over costs.

Nobody can guarantee that corn prices will average $3.40 per bushel or that soybean prices will average $7.00 per bushel. However, farmers can lock in today’s prices for the next three years by buying futures contracts. This suggests that there are at least some farmers who can afford to pay higher rent because they have already locked in price

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levels that justify higher rents. Of course, price is only one side of the revenue equation. There is also the risk that farmers may not be able to produce a crop. But the probability of a crop loss is no greater under high prices than under low prices, and so this risk should not really influence farmers’ willingness to pay more for land. The one uncontrollable part of the future profit equation is production costs. If seed, fertilizer, fuel, and pesticide costs continue to rise, as they have over the past few years, then future margins will be lower than anticipated.

Impacts of Higher Land Rents
Higher land rents, and the inevitable increase in land prices that follow, will have little impact on the competitiveness of Iowa agriculture. Because the value of Iowa farmland is determined primarily by the value it generates in current and anticipated future production, higher property values are a reflection, rather than a determinant, of the competitiveness of Iowa agriculture.

It might seem intuitive that higher land rent would hurt farmers who rent land. But if higher land rents simply reflect higher expected returns over variable costs, then farmers who rent their land will be largely unaffected by changes in rent. On average, the extra they make from the marketplace will just be handed over to land owners in the form of higher rental payments.

The clear beneficiaries of higher crop returns would be existing land owners because the returns to owning land would increase. Because farmland is a major financial asset, the net worth of Iowa would grow significantly. To the extent that this increase in net worth is leveraged into productive investments, income growth in Iowa should also eventually increase.

Impact of High Corn Prices
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production of continuous corn, the environmental damages would be much higher than what we estimate with corn prices as high as $5 per bushel, as we noted earlier for sediment and nitrogen losses. In the case of carbon sequestration, losses would increase from over 87 million tons at $5 corn and 1,350,000 acres back in production to 133 million tons for the almost two million acres currently in CRP. This suggests that no matter how high corn prices ever get, some land in CRP is simply too fragile to be cropped.

Change in Strategies
The results of our work carry implications for large parts of the United States but are particularly relevant for the Corn Belt. Our results indicate that land currently enrolled in the CRP offers significant environmental benefits that could be lost under higher commodity prices. Maintaining current levels of environmental quality will require substantially higher spending levels. Even allowing for the cost savings that would accrue as CRP land leaves the program, a change in targeting strategies will likely be required to ensure that the most sensitive land does not leave the program. In particular, high corn prices may accelerate the trend that started with the 2002 farm bill in which CRP targeting has shifted from the idling of whole fields for conservation purposes to implementing in-field practices, such as filter strips and grassed waterways that are seen as supporting working lands by reducing environmental impacts. (To preserve whole fields in the CRP, higher payments would have to be considered.) Because this will keep only part of the land out of production, it is not certain that more money will have to be devoted to CRP payments. For example, at $4-per-bushel corn, doubling soil rental rates would keep over a million acres in the program, as opposed to less than 700,000 acres with current payment levels, and the program costs would be over $26 million lower than they are now. •