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February Settlement Period Critical in Determining Downside Revenue Risks

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Projected prices used to set revenue guarantees for crop insurance are determined based on settlement prices of Chicago Mercantile Exchange contracts during the month of February. Hence, February is a critical month in determining downside revenue risks for 2012. This is illustrated by generating net incomes for a farm given differing projected prices.

The farm used in income projections is a 1,200 acre grain farm further described in a November 17, 2011 farmdoc daily entry here). This farm has 10 percent of its acres owned, 30 percent share rented, and 60 percent cash rented ($275 per acre cash rent). The farm has expected yields are 187 bushels for corn and 54 bushels for soybeans, grows corn on two-thirds of acres, has non-land costs of $546 per acre for corn and $306 per acre for soybeans, and has $480,000 of debt. Budgets for corn and soybeans are shown in the November 17th entry. The four price scenarios are:

1. Projected 2012 prices ($5.00 per bushel for corn, $11.00 per bushel for soybeans),
2. Long-run prices ($4.50 per bushel for corn, $10.50 per bushel for soybeans),
3. Below average prices ($3.50 per bushel for corn, $9.50 per bushel for soybeans),
4. Low price year ($3.50 per bushel for corn, $8.20 per bushel for soybeans), and
5. Poor price year ($3.00 per bushel for corn, $7.00 per bushel for soybeans).

For each of the price scenarios, net income is generated given that Revenue Projection (RP) crop insurance is purchased at an 80 percent coverage level. Crop insurance is purchased for corn and soybeans. Three different sets of projected prices are used to set guarantees:

1. $5.80 per bushel projected corn price and $11.80 per bushel soybean price,
2. $5.30 per bushel projected corn price and $11.30 per bushel soybean price, and
3. $5.00 per bushel projected corn price and $11.00 per bushel soybean price.

The above sets of prices encompass the recent trading ranges of the December CME corn contract and November CME soybean contract.

Table 1 shows net incomes under the above price and projected price scenarios. For the projected 2012 and long-run prices, incomes do not vary for the three different projected price scenarios because crop insurance payments do not occur. Net income is $158,400 for the projected 2012 prices and $86,500 for the long-run prices.

Table 1. Net Farm Incomes on a 1,200 Grain Farm Given Differing Prices and Projected Prices.

Price Scenario			Projected Prices[1]		
Name	Corn Price	Soybean Price	$5.80/$11.80	$5.30/$11.30	$5.00/$11.00
	$ per bushel		$ per farm		
2012 projected	5.00	11.00	158,400	158,400	158,400
Long-run	4.50	10.50	86,500	86,500	86,500
Below average	4.00	9.50	44,100	4,400	4,400
Low	3.50	8.20	31,200	-26,000	-59,900
Poor	3.00	7.00	30,800	-26,500	-60,800

[1] Insurance is a Revenue Protection insurance product with an 80 percent coverage level. The first number is the corn projected price and the second is the soybean projected price.

Incomes vary at “below average”, “low”, and “poor” prices. Take, for example, the low prices of $3.50 for corn and $8.20 for soybeans. Net income for a $5.80 projected corn price and $11.80 soybean price is $31,200. Net income is reduced to -$26,000 for projected prices of $5.30 for corn and $11.30 for soybeans. Net income decreases to -$59,900 given projected prices of $5.00 for corn and $11.00 for soybeans.

Incomes across projected price scenarios do not very much between the low and poor price scenario. For example, take the $5.80 projected corn price and $11.80 soybean price. Net income is $32,000 at low prices and $30,800 at poor prices. Incomes do not differ because crop insurance payments are offsetting declines in crop revenue caused by lower prices. Given crop insurance, the $5.80/$11.80 price set results in a minimum income of around $31,000, the $5.30/$11.30 projected price set results in -$26,000 of net income, and the $5.00/$11.00 projected price set results in -60,000 of net income.

As can be seen, projected prices have a large impact on downside risks. Hence, the February settlement period has a large impact on potential downside revenue risks faced by farmers.