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Department of Agricultural and Consumer Economics, University of Illinois Urbana-Champaign

Forecasts of 2015 Market Year Average Prices Based on Projected Prices for Crop Insurance

Gary Schnitkey

Department of Agricultural and Consumer Economics
University of Illinois

February 17, 2015

***farmdoc daily* (5):29**

Recommended citation format: Schnitkey, G. "Forecasts of 2015 Market Year Average Prices Based on Projected Prices for Crop Insurance." *farmdoc daily* (5):29, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, February 17, 2015.

Permalink URL http://farmdocdaily.illinois.edu/2015/02/forecasts-of-2015-market-year-average-prices.html

The 2015 market year average (MYA) prices for corn and soybeans are forecasts using the same futures contract prices as are used to set projected prices on crop insurance products. Prices during the first two week of February indicate projected prices of $4.15 per bushel for corn and $9.60 per bushel for soybeans. Resulting forecasts of 2015 MYA prices are $3.97 per bushel for corn and $9.84 per bushel for soybeans. Given these forecasts, Agricultural Risk Coverage – County Option (ARC-CO) is projected to pay more than Price Loss Coverage (PLC) over many counties in 2015.

Background

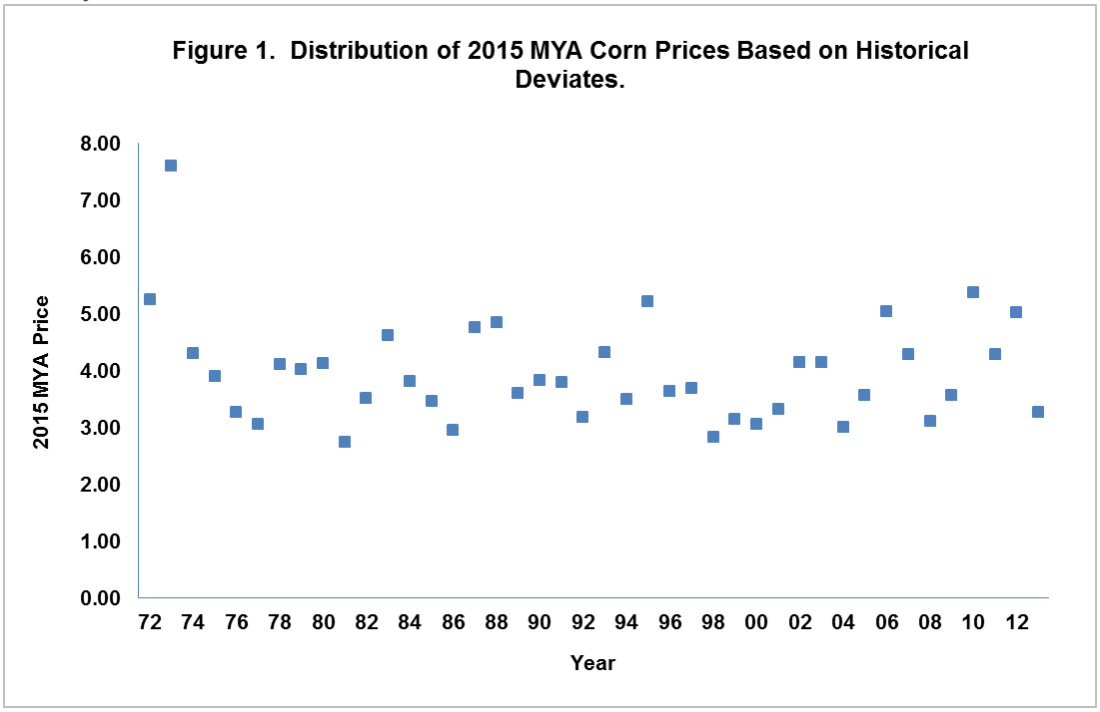
Projected prices are used to set guarantees on crop insurance products. In most cases, these projected prices are averages of settlement prices of futures contracts during a specified period. For corn and soybeans grown in the Midwest, the establishment period is February and Chicago Mercantile Exchange Contracts are used. The December 2015 contract is used for 2015 corn crop insurance products. The November 2015 corn contract is used for 2015 soybean products.

MYA prices are used to determine payments on Federal commodity program payments. MYA prices are calculated by the National Agricultural Statistical Service and represent national, cash prices received by farmers. Market years for both corn and soybeans begin in September and end in August. In this article, forecasts are generated for the 2015 marketing year (September 2015 through August 2016).

The 2015 MYA forecasts are based on historical observations from 1972 through 2013. A historical deviation is calculated for each year: MYA price for the year is divided by projected price for the year. For example, the 2013 deviate for corn is .789 ($4.46 MYA price / $5.65 projected price). The 2015 projected price then is multiplied by the 42 historical deviates. For example, the 2013 price deviate gives a $3.28 MYA price ($4.15 projected price (forecast at this moment) x .689 deviate). Figure 1 shows all 42 estimates of market prices. The average of that distribution is the market-based forecast of the 2015 MYA price.

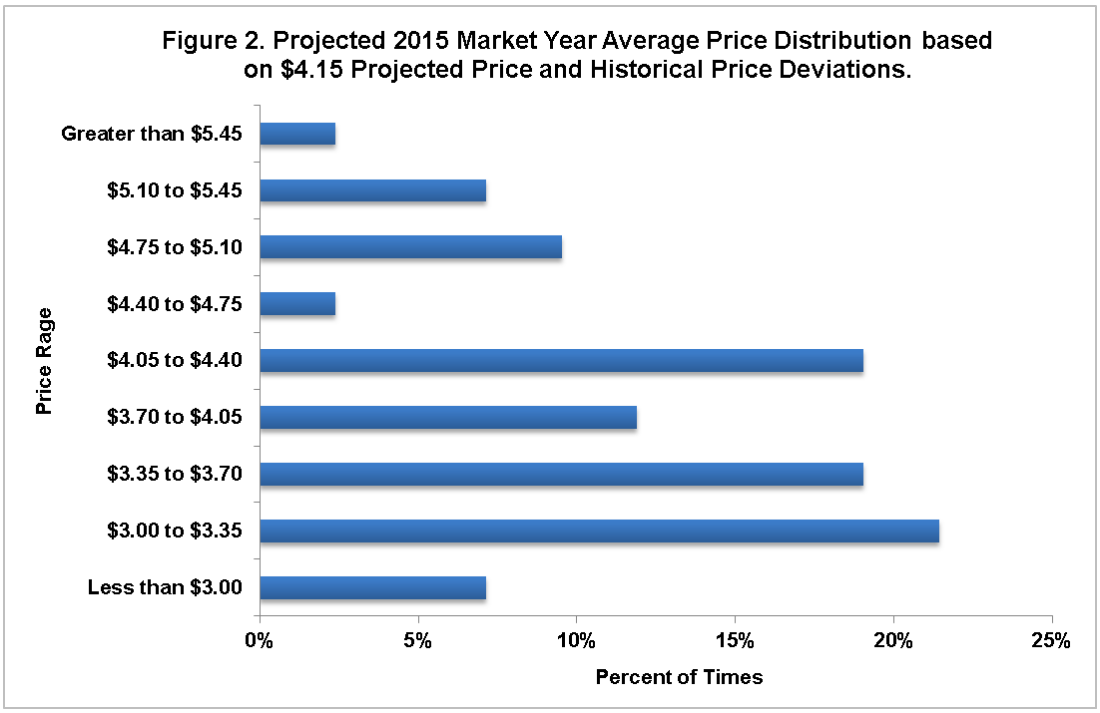
Note that the forecasts are for the 2015 market year. Federal commodity programs are scheduled to run from 2014 to 2018. Estimates of 2014 prices are provided by *World Agricultural Supply and Demand*

Estimates Report. The February 2015 report places the midpoint 2014 MYA prices at $3.65 for corn and $10.20 for soybeans.



Corn

A $4.15 projected price results in 2015 MYA price forecast of $3.97. The distribution of prices based on historical deviates is shown in Figure 2. As can be seen in Table 1, there is a considerable range of possible prices. There is a 7% chance of a MYA price less than $3.00 per bushel. Note also that there is a chance of higher prices. There is a 22% chance of a MYA price over $4.75.



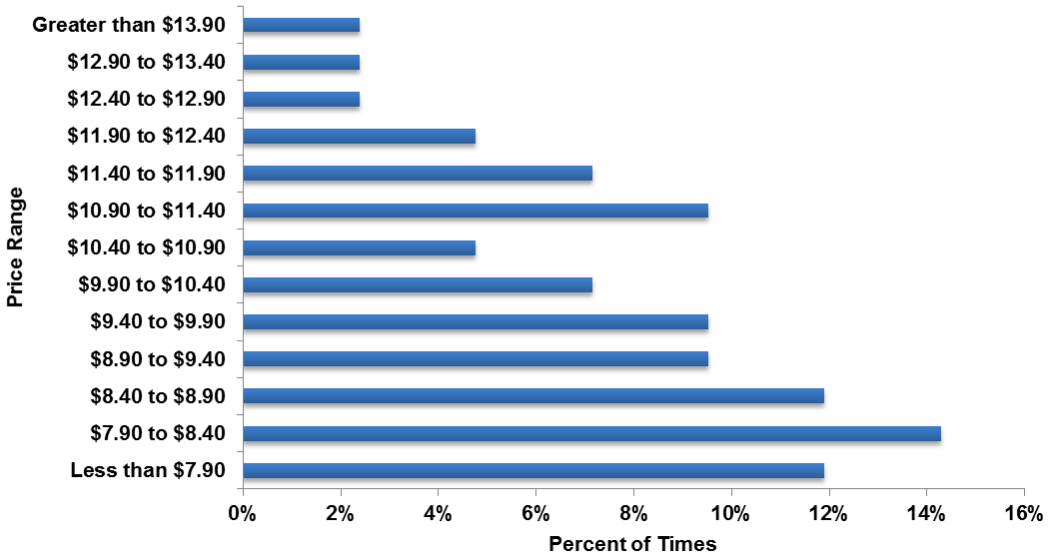
These price forecasts can be used to make forecasts of Price Loss Coverage (PLC) and Agricultural Risk Coverage – County (ARC-CO) payments for 2015. Estimating ARC-CO payments require yield estimates. Detrended county yields for McLean County, Illinois are used. The expected 2015 payment for PLC is $27 per acre using a 162 bushel per acre PLC payment yield. The expected payment for ARC-CO is $51 per acre. ARC-CO having higher payments than PLC are generalizable over a wide range of counties.

Soybeans

A $9.60 projected price results in a 2015 MYA price forecast of $9.84 per bushel. A distribution of possible prices is shown in Figure 3. There is a 26% chance of price being below the $8.40 reference price. There also is considerable chance of higher prices. Historical variability points to a 12% chance of a price above $11.90 per bushel.

For a 55 bushel per acre PLC yield, the expected 2015 PLC payment is $7 per base acre. The expected ARC-CO payment for McLean County Illinois is $29 per base acre. ARC-CO having a higher payment than PLC is generalizable over a wide range of counties.

Figure 3. Projected 2015 Soybean Market Year Average Price Distribution based on a $9.60 Projected Price and Historical Price Deviations.



Comments

Several comments relative to these estimates:

- Historical price variability suggests a wide range of possible prices for 2015. There has been some debate over whether historical variability understates or overstates the uncertainty that currently exists. Prices on options contracts currently give lower volatilities than existed in the 2000s, suggesting that the market points to lower price variability now than in the 2000s.

- The above market-based forecasts of 2015 market prices are above other forecasts. In its long-term forecasts, for example, the USDA put MYA estimates for 2015 at $3.40 per bushel for corn and $8.50 per bushel for soybeans.

- Much of the focus currently appears to be on low prices. An open question is whether there is too much price pessimism. While low prices are certainly possible, historical changes suggest that high prices also can occur.

Additional Reading

The following two papers deal with looking at historical price variability associated with market year average prices. These use a longer time period than used in this article, resulting in lower estimates of PLC payments:

- Evaluating Historical Variability of Corn's Market Year Average Price Projections (*farmdoc daily*, May 13, 2014).
- Evaluating Historical Variability of Soybeans' Market Year Average Price Projections (*farmdoc daily*, May 28, 2014)

The following article evaluates long-term forecasts of alternative forecasting methods:

- Long-term Corn, Soybeans, and Wheat Price Forecasts and the Farm Bill Program (*farmdoc daily*, February 4, 2015).
- Price Projections and Farm Bill Program Choices: Adding FAPRI-MU Projections to the Mix (*farmdoc daily*, February 12, 2015).
- Do Futures Forecast the Future? (*farmdoc daily*, August 7, 2014).

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