The Outlook for the U.S. Farm Economy

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Thank you for the opportunity to discuss the outlook for the U.S. farm economy. For more than 30 years, our institute has developed ten-year baseline projections for agricultural commodity markets and analyzed the impacts of policy options. Today I will briefly summarize some key finding from our new baseline, which we expect to release next week. Note that the estimates were not final at the time these remarks were prepared, but I would expect the basic "stories" discussed here to hold.

The decline in commodity markets

Farm commodity prices have declined sharply after reaching record highs in recent years. For example, the marketing year average price for corn fell from $6.89 per bushel in the drought year of 2012/13 to an estimated $3.60 per bushel just three years later (Table 1). Wheat, soybean and cotton prices have also declined. The high prices of the 2010-2012 period and more favorable weather conditions resulted in a large increase in U.S. and global crop production, while a variety of factors limited demand growth, so carryover stocks increased. Crop cash receipts fell by 17 percent between 2012 and 2015.

On the livestock side, prices for cattle, hogs, chickens and milk all reached record highs in 2014 because of strong export demand, disease outbreaks and the delayed effects on production of drought and high feed costs. Total meat and milk production rebounded in 2015 at the same time a strong dollar helped constrain export sales. Prices fell sharply for hogs, chickens and milk in 2015 relative to the previous year. Fed steer prices peaked in the final quarter of 2014, but then declined in every quarter of 2015. Livestock cash receipts dropped by 12 percent in 2015.

Table 1. The decline in farm commodity prices and cash receipts

	Peak year	Peak level	Recent year	Recent level*	Change
Corn price ($/bu.)	2012/13	6.89	2015/16	3.60	-48%
Wheat price ($/bu.)	2012/13	7.77	2015/16	5.00	-36%
Soybean price ($/bu.)	2012/13	14.40	2015/16	8.80	-39%
Cotton price (cents/lb.)	2011/12	88.30	2015/16	59.50	-33%
Fed cattle price ($/cwt)	2014	154.56	2015	148.12	-4%
Hog price ($/cwt)	2014	76.03	2015	50.23	-34%
Chicken wholesale (cents/lb.)	2014	107.60	2015	90.50	-16%
All milk price ($/cwt)	2014	23.97	2015	17.08	-29%
Crop receipts ($ billion)	2012	232	2015	191	-17%
Livestock receipts ($ billion)	2014	212	2015	186	-12%

*2015/16 crop prices use mid-point of the reported range from USDA's World Agricultural Supply and Demand Estimates, February 2016.

The crop outlook

Our baseline projections assume a continuation of current policies and a macroeconomic outlook developed by IHS Global Insight, a private forecasting firm. We recognize that the world is a very uncertain place, so we use our models to derive distributions of the agricultural sector variables.

Figure 1 shows the average of the projected corn prices as well as two more lines to give an idea of some of the uncertainty that producers face. In 10 percent of the model's 500 outcomes, the corn price exceeds the top line, about $5 per bushel, and in 10 percent it falls below the bottom line, about $3 per bushel. I should point out that these estimates only consider a subset of the factors that cause commodity prices to be uncertain—the actual uncertainty around our longer-term projections is probably even greater than the chart indicates.

The story would be similar for other crops. For the next few years, we expect wheat, soybean and cotton prices to all average near 2015/16 levels, but with considerable annual variation. Population and income growth around the world contribute to rising food, feed and fiber consumption, but global crop supplies are projected to be adequate to meet that demand, even at prices well below the 2010-12 peaks. The United States faces continued strong competition from Brazil, Argentina, Russia, Ukraine and other exporters, and demand growth in China may be slowing.

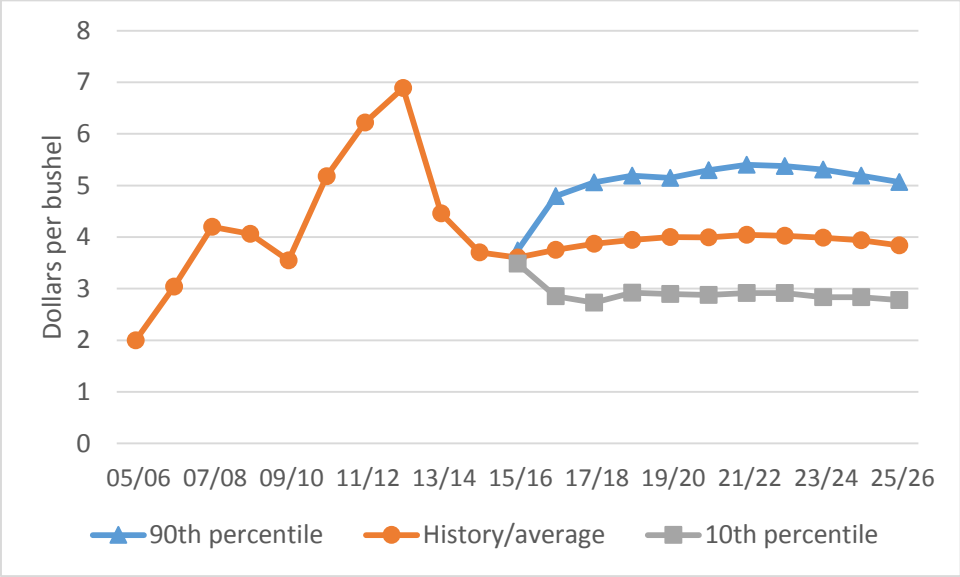

Figure 1. Actual and projected corn prices (source: FAPRI-MU estimates)

Livestock outlook and cash receipts

In 2016, beef, pork, chicken and milk production are all expected to increase, even as the strong dollar constrains growth in export sales. The result is a further projected decline in prices for cattle, hogs, chicken and milk. Cattle prices could decline further in 2017 and beyond as additional cows in the breeding herd eventually translate into more beef production. In the long run, livestock prices will tend to move with feed prices.

The projected prices and production levels suggest that both crop and livestock receipts could decline again in 2016 (Figure 2). In later years, increasing production contributes to a moderate rate of increase in projected cash receipts. However, note that in 2025, both crop and livestock receipts remain below their peak values of recent years.

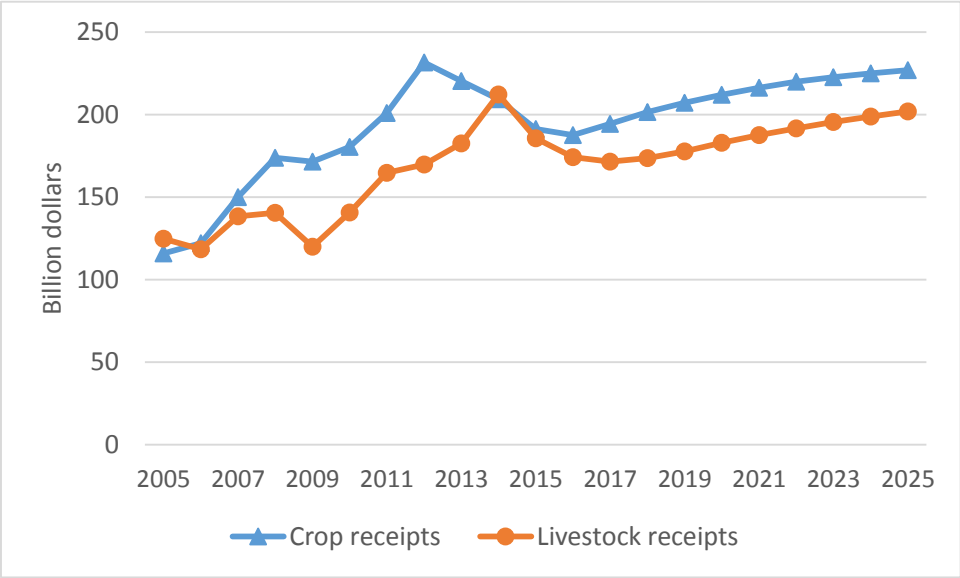

Figure 2. Crop and livestock cash receipts (source: FAPRI-MU projections)

ARC and PLC

The 2014 farm bill significantly reoriented U.S. farm policy. Gone are fixed annual direct payments and other past programs, and in their place are two new programs that only make payments when prices or revenues fall below trigger levels. Price loss coverage (PLC) payments occur when marketing year average farm prices fall below fixed reference prices. County agricultural risk coverage (ARC-CO) payments occur when a proxy for per-acre county revenues for a particular crop falls below a trigger tied to past prices and yields. Most corn, soybean and wheat base acreage is enrolled in ARC-CO while most sorghum, barley, rice and peanut base is enrolled in PLC. Few acres are enrolled in ARC-IC, an alternative version of the program.

Averaging across 500 outcomes, we project that ARC payments will peak in the current marketing year (Figure 3). Projected ARC payments then decline, not so much because of any major increase in projected prices or yields, but because the moving average of past prices used to compute guarantees declines. The chart only shows outcomes through the 2018 expiration of the current farm bill.

Note that actual payments in any given year can differ greatly from the levels shown, suggesting that the cost to taxpayers of these new programs is quite uncertain. For example, in more than one-third of the 500 outcomes for the 2018 crop year, projected ARC-CO payments are less than $1 billion, but they exceed $4 billion in the 10 percent of outcomes with the greatest payments.

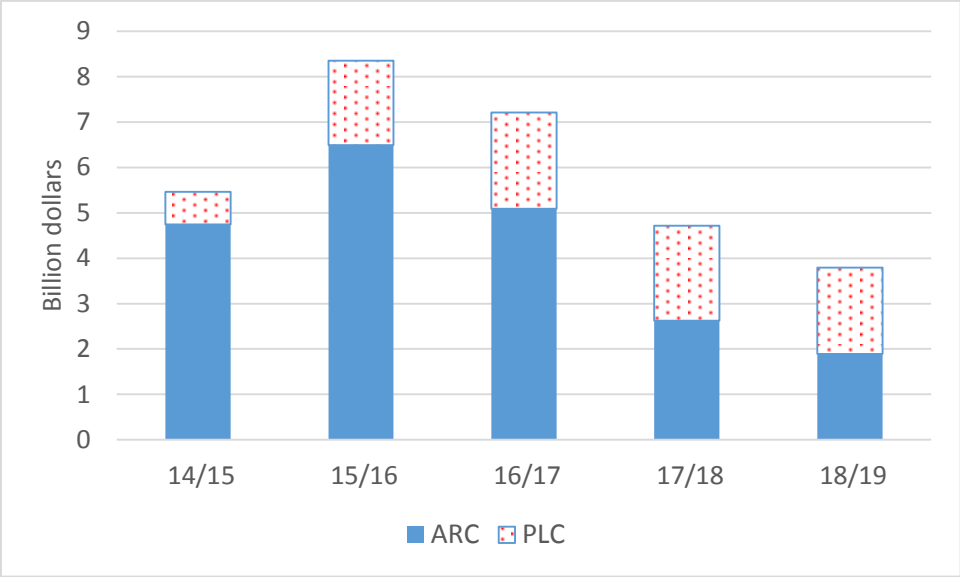

Figure 3. ARC and PLC payments (Source: FAPRI-MU projections)

Crop insurance and commodity programs

The 2014 farm bill also creates a number of new crop insurance options for producers. Cotton producers, for example, can choose to purchase STAX, an area-based policy that supplements individual coverage. There is no ARC or PLC program for upland cotton.

In any given year, indemnities can differ greatly from premiums, but on average, we would expect total indemnity payments to be similar to total premiums. Premium subsidies cover more than 60 percent of total premiums.

Across 500 outcomes, average crop insurance net indemnities (indemnity payments for losses minus producer paid premiums) average a little over $5 billion per year (Figure 4). Projected ARC and PLC payments exceed crop insurance net indemnities in 2015/16 and 2016/17, but the reverse is true in later years. For years after 2018, we follow the lead of the Congressional Budget Office and assume an extension of 2014 farm bill provisions.

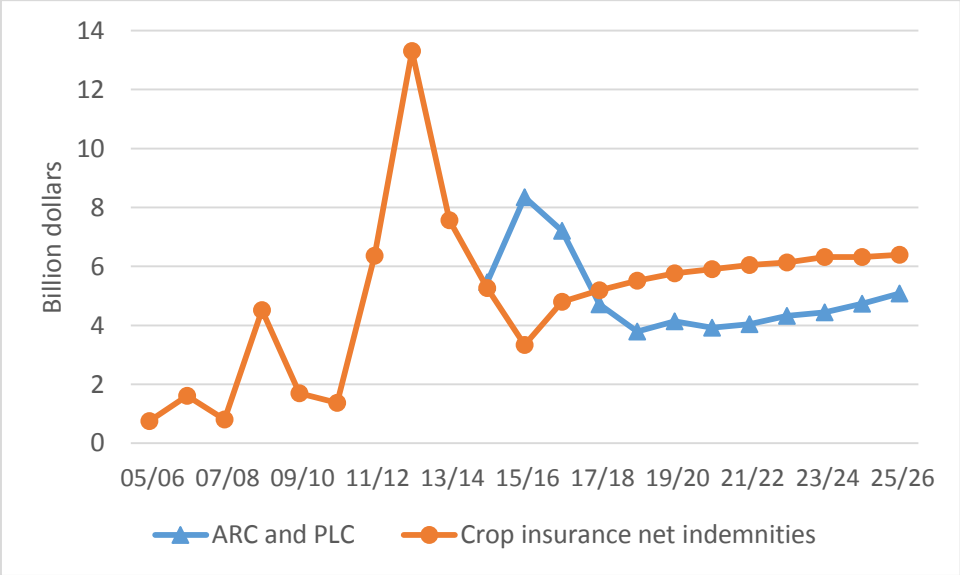

Figure 4. Crop insurance net indemnities and ARC and PLC payments

Net farm income

The decline in crop and livestock receipts has resulted in a dramatic reduction in net farm income relative to the record level of 2013. Lower fuel, fertilizer and feed prices helped reduce production costs by about $10 billion in 2015 and another reduction is expected in 2016, but the projected cost reductions are not nearly enough to offset revenue losses.

Given all the assumptions of our analysis, net farm income remains well below recent peak levels (Figure 5). Projected real, inflation-adjusted net farm income is about the same in 2025 as it was in 2015.

As with other projections, there is great uncertainty around projections of net farm income. Even modest proportional changes in costs or revenues can result in large proportional changes in net income.

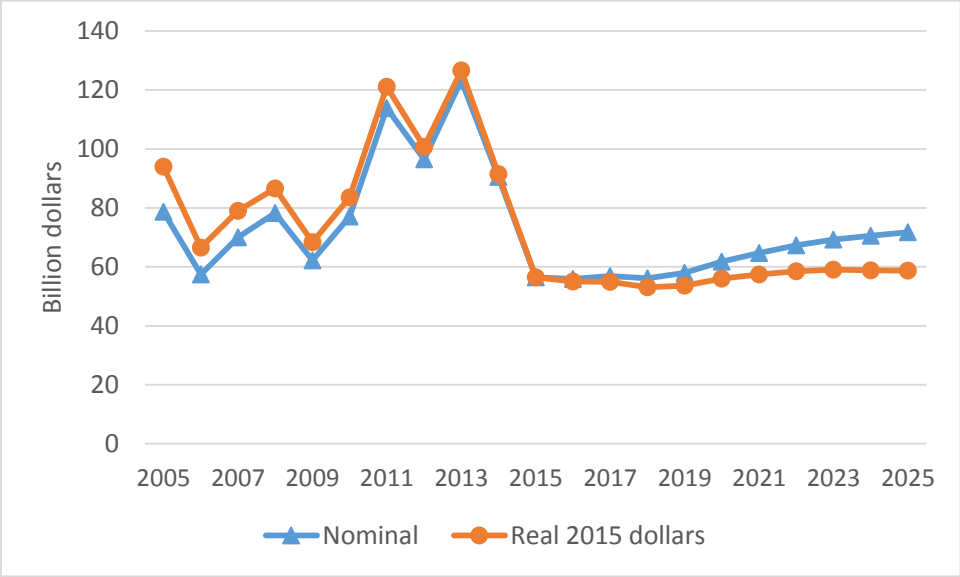

Figure 5. Net farm income (Source: FAPRI-MU projections)

Final comments

If these projections prove correct, it suggests an extended period of financial stress in U.S. agriculture. Not only are farm incomes expected to remain well below recent peaks, but businesses that sell machinery and inputs to farmers are also likely to be negatively affected. Farm asset values are likely to be under pressure, especially if interest rates increase.

However, it is also important to maintain perspective. While rising debt is a serious concern, debt-asset ratios remain low by historical standards. Even if interest rates increase from current levels, they are likely to remain well below the levels that prevailed during the farm crisis of the 1980s. While commodity prices are well below recent peaks, they remain high by pre-2007 standards.

You can look for our new baseline soon, perhaps next week, at www.fapri.missouri.edu. Our baseline briefing book will provide detailed estimates for farm commodity markets, farm program costs, farm income and consumer food costs.

Thank you for the opportunity, and I will be happy to answer any questions.

Disclaimer:

The projections reported here are based upon work supported by the U.S. Department of Agriculture, Office of the Chief Economist under Agreement No. 58-0111-15-008 with the Curators of the University of Missouri. Any opinion, finding, conclusions, or recommendations expressed are those of the author and do not necessarily reflect the view of the U.S. Department of Agriculture nor the University of Missouri.