The state of the farm economy: Some big-picture considerations

Patrick Westhoff

Director, Food and Agricultural Policy Research Institute at the University of Missouri (FAPRI-MU)

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Mr. Chairman and members of the committee. Thank you for the opportunity to discuss with you today the state of the farm economy.

I serve as director of the Food and Agricultural Policy Research Institute at the University of Missouri (FAPRI-MU). For more than 30 years, FAPRI has provided analysis to Congress and the public to help people make more informed decisions. We do our best to provide objective analysis and do not make policy recommendations. My comments today are my own, and do not necessarily represent the views of the University of Missouri or the agencies that fund our research.

How did we get here?

For a wide range of agricultural commodities, prices now are far lower than they were a few years ago. Many factors have contributed to this downturn, but it makes sense to begin on the supply side of the picture. Since 2002, world production of corn, wheat, rice and soybeans has increased by 857 million metric tons, or 49 percent (Figure 1).

Some of that remarkable increase in production was needed to keep up with population growth, expanding livestock production in China and biofuel production in the United States and other countries. However, in the four years since the drought of 2012, global grain and oilseed yields per acre have exceeded the long term trend, and production has slightly outpaced consumption. The result has been a sharp increase in carryover stocks (Figure 2) and downward pressure on commodity prices.

The supply side is also very important in explaining low livestock sector prices. After meat and milk prices hit record highs in 2014, production increased in 2015 and 2016, pushing prices lower.

Of course, the current situation is not just a supply story. Slower expansion of biofuel production, a strong dollar, and policies in other countries are just some of the demand-side factors that have contributed to lower farm commodity prices.

Looking ahead: the FAPRI-MU outlook

Our institute is in the process of preparing its new 10-year baseline projections for the farm economy. We use USDA historical data, economic models and expert analysis to project how commodity markets might evolve if current policies remain in place. The remainder of my comments are based on point estimates from this new baseline—what the world might look like under average weather and market conditions. Before we release our full set of baseline projections next month, we will conduct what we call "stochastic" analysis that considers a broader range of weather and other conditions and allows us to talk about some of the inherent volatility and uncertainty in commodity markets.

Farm income and balance sheet

Net farm income averaged $101 billion per year between 2010 and 2014 (Table 1). Relative to the previous five years, higher prices resulted in dramatic increases in both crop and livestock receipts that

outpaced a sharp increase in production expenses. Commodity prices are now far below their peak and both crop receipts and net farm income have declined. For the 2015 to 2019 period, we project that net farm income will average $74 billion per year, down by more than a quarter from the previous five years. Correcting for inflation, in fact, real net farm income is less now than the 2005 to 2009 average.

Looking ahead, we project a modest increase in crop prices and cash receipts that contributes to a small increase in nominal net farm income in 2018 and beyond (Figure 3). However, projected real net farm income remains below the 2015 level through 2025.

Higher land values caused the value of farm assets to nearly double between 2004 and 2014. In 2016, however, USDA reported a slight reduction in farm real estate values and total farm assets. Looking ahead, we project further reductions in real estate values. Cropland rental rates are falling in some parts of the country in response to weaker crop returns, and the prospect of higher interest rates could also put pressure on farmland values.

Farm debt increased sharply as some farmers borrowed to buy more expensive farmland and machinery and to cover rising operating costs. Lower returns are making it harder for farmers to service debt, which continues to rise in the face of lower farm income and asset values. The result is an increase in farm debt-to-asset ratios, which increased from about 12 percent between 2010 and 2014 to about 14 percent in 2017 and to even higher levels in the years ahead.

The projected debt-to-asset ratio remains far below the 1985 peak of 22 percent during the farm financial crisis, and interest rates are also far lower than they were at that time. Nevertheless, the trend of a rising debt-to-asset ratio is a serious concern, and many more highly-leveraged borrowers may find it increasingly difficult to service debt.

Outlook for particular crops

For six major crops, higher prices drove per-acre crop values to record levels during the 2009-2013 period (Table 2). Production expenses also increased sharply from the previous five years, but the increase in market sales outpaced the increase in variable production expenses, resulting in higher net returns. The increase in returns contributed to higher rental rates and encouraged farmers to invest more in farm real estate and machinery. These higher fixed costs absorbed much of the increase in net returns over variable expenses.

Since 2014, lower crop prices have reduced the per-acre value of crop sales. Although variable expense increases have slowed or even reversed for several commodities, net returns are far below 2009-2013 levels, and in some cases are about the same as they were between 2004 and 2008, when land and other fixed expenses were much lower. Looking farther ahead, the outlook shows fairly steady net returns over variable expenses during the 2019 to 2023 period that would be covered by the next farm bill.

Final comments

The figures presented here are just one way the future might unfold. In reality, the weather is rarely "average," policies change, and other surprises will happen. A drought could push prices higher, a trade dispute could reduce exports, or a change in interest rate policy could make it harder for farmers to service debt. Baseline projections are not a crystal ball forecast of what will happen, but rather a useful benchmark that can be used to evaluate what-if scenarios. My FAPRI-MU colleagues and I stand ready to examine policy alternatives and other options that may be useful to you. I'd be happy to take any questions.

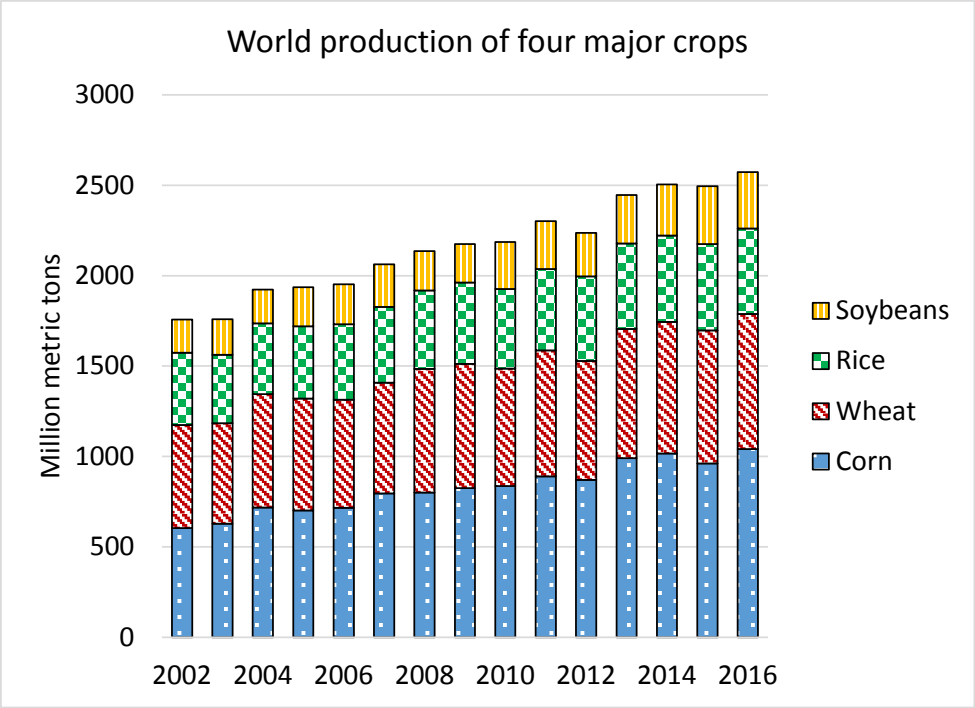

Figure 1. World production of four major crops. Source: USDA's Foreign Agricultural Service, PSD Online, February 2017.

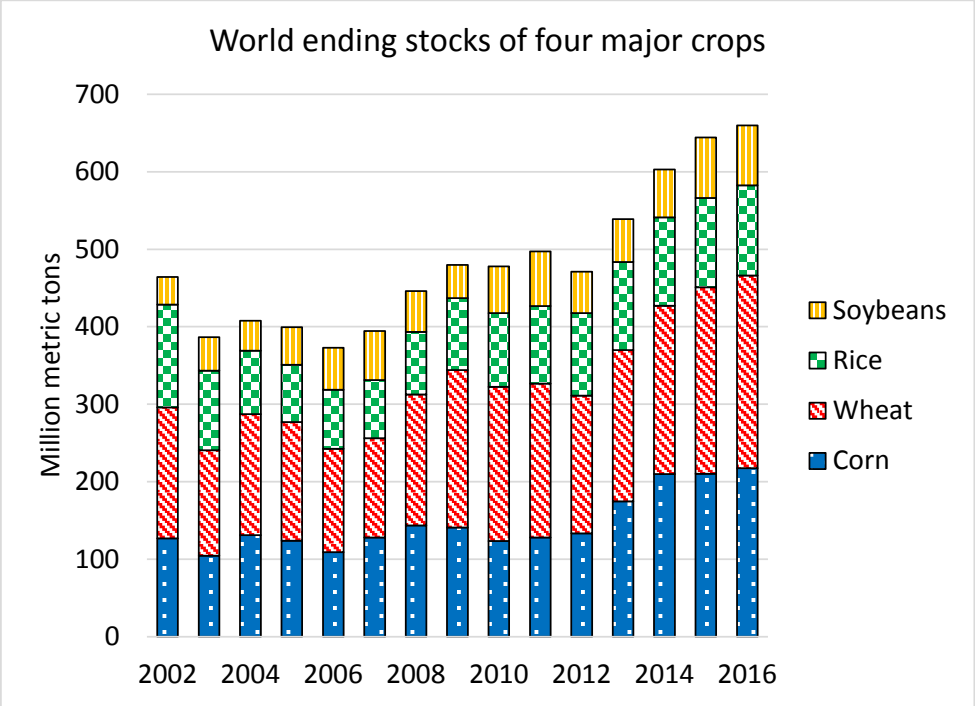

Figure 2. World ending stocks of four major crops. Source: USDSA's Foreign Agricultural Service, PSD Online, February 2017. Note: years are crop years (e.g. 2016 = 2016/17).

Table 1. U.S. farm income and balance sheet, billion dollars

Variable	2005-09 avg.	2010-14 avg.	2015-19 avg.	2020-24 avg.
Crop cash receipts	147	209	191	203
Livestock cash receipts	128	174	174	188
Government payments*	15	11	11	7
Production expenses	257	338	354	375
Net farm income*	69	101	74	85
(in 2016 dollars)	80	107	73	75
Farm assets	1,910	2,571	2,794	2,591
Farm debt	239	306	383	408
Debt/asset ratio	12.5%	11.9%	13.7%	15.8%

Sources: Historical data from USDA's Economic Research Service. Projections for 2017-2024 are unpublished point estimates by FAPRI-MU.

*These figures will differ from the FAPRI-MU 2017 baseline to be released in March. That baseline will report stochastic analysis of 500 future market outcomes, and is likely to show slightly greater average future payments and farm income than these point estimates, which assume average weather and market conditions.

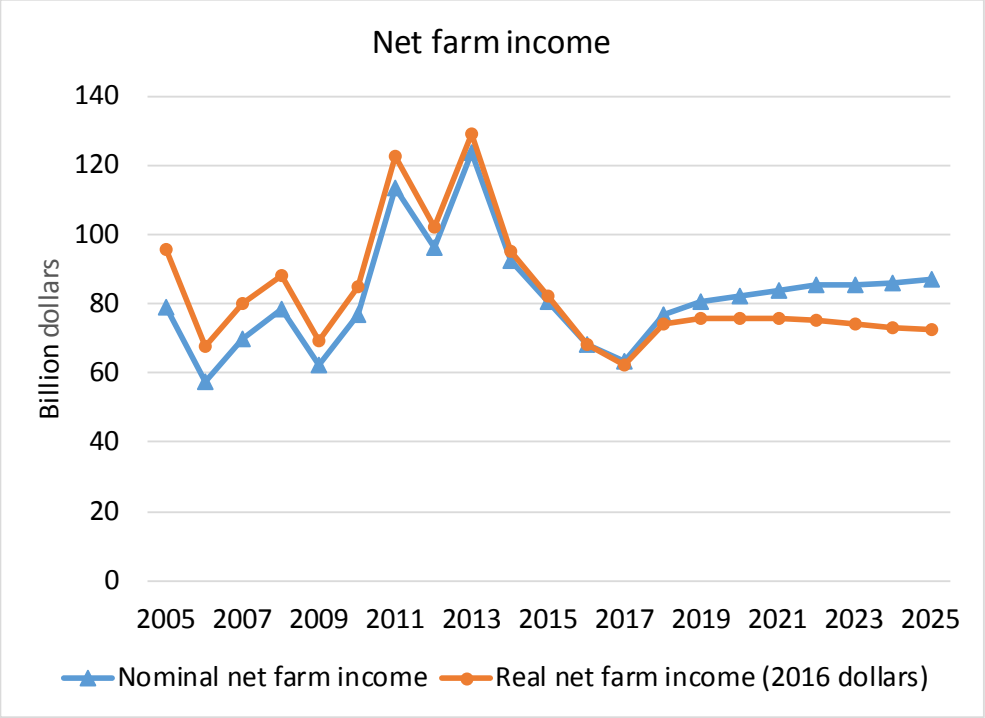

Figure 3. Net farm income. Source: FAPRI-MU projections, February 2017.

Table 2. U.S. crop market returns, dollars per acre

Variable	2004/05 to 2008/09 avg.	2009/10 to 2013/14 avg.	2014/15 to 2018/19 avg.	2019/20 to 2023/24 avg.
Corn				
Market sales	467	768	614	649
Variable expenses	221	327	325	327
Market net returns	246	441	289	323
Soybeans				
Market sales	316	517	462	465
Variable expenses	102	153	174	183
Market net returns	214	364	288	283
Wheat				
Market sales	204	295	220	243
Variable expenses	93	120	115	121
Market net returns	111	175	106	122
Upland cotton				
Market sales	488	742	630	667
Variable expenses	395	487	511	546
Market net returns	93	255	119	121
Sorghum				
Market sales	189	295	237	228
Variable expenses	125	145	134	142
Market net returns	63	150	102	86
Rice				
Market sales	756	1,056	889	947
Variable expenses	413	533	576	622
Market net returns	343	523	313	325

Sources: Historical data based on USDA National Agricultural Statistics Service reported yields and prices and Economic Research Service reported production costs. Projections for 2016/17-2023/24 are unpublished point estimates by FAPRI-MU.

Definitions and notes:

Market sales are defined as the national average yield per harvested acre times the national marketing year average price. For cotton, includes lint and cottonseed.

Variable expenses include operating costs and hired labor expenses, as defined by ERS. They do not include the costs of land, machinery or other fixed expenses.

Market net returns are defined as market sales minus variable expenses. From this amount and any farm program benefits, producers would have to cover land costs machinery and other fixed expenses.