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Past and Future of Farm Bill Payments

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Past and Future of Farm Bill Payments

by **Alejandro Plastina**

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IN THE summer of 2015, producers were allowed to elect their farms into one of the two new commodity programs introduced by the 2014 Farm Bill: Price Loss Coverage (PLC) or Agricultural Risk Coverage (ARC). The coverage of the latter program is offered at the county level (ARC-CO), and at the individual farm level (ARC-IC). Less than one percent of all US base acres are enrolled in ARC-IC. Each spring, farmers who want to participate in the elected commodity programs must enroll their farms, but cannot modify the program election decisions made in 2015. So far, farmers were able to enroll twice in ARC/PLC programs: in 2015 for the 2014/15 and the 2015/16 marketing years, and in 2016 for the 2016/17 marketing year.

Farm Bill payments corresponding to the marketing year 2015/16 were issued in October 2016. Total ARC-CO and PLC payments amounted to \$7.7 billion and surpassed the 2014/15 payments by \$2.4 billion.



Lower commodity prices were the main drivers of the increase. Corn and soybean base acres account for 62 percent of total base acres in the United States, and 71 percent of the cumulative payments in 2015 and 2016 (Table 1).

The average marketing year corn price declined by 2 percent from \$3.70 in 2014/15 to \$3.61 in 2015/16, increasing the gap between annual prices and the Olympic average price used in the calculation of the ARC-CO revenue guarantee (\$5.29 for both years), and triggering the first PLC payments for corn base acres (the reference price is \$3.70).

The average marketing year soybean price declined by 11 percent from \$10.10 in 2014/15 to \$8.95 in 2015/16, increasing the gap with the Olympic average price in ARC-CO calculations (\$12.27 for both years).

However, PLC payments were not triggered for soybean base acres since the annual price was higher than the reference price: \$8.40.

Payments by states

The states that received the largest cumulative Farm Bill payments are Iowa, Nebraska, Illinois, Minnesota, and Indiana. Corn and soybean base acres account for at least three-quarters of total base acres in each of those states. Those five states jointly account for 45 percent of the cumulative ARC-CO and PLC payments in the nation, and 99 percent of the payments were made through the ARC-CO program.

Since ARC-CO targets revenue risks at the county level, the distribution of payments across states changes not only due to national prices and the proportion of base acres in each covered

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commodity, but also due to the evolution of county yields with respect to their historical averages. Average corn yields in Illinois and Indiana were lower in 2015 than in 2014, compounding the effect of lower corn prices and resulting in higher ARC-CO payments (Table 2). Indiana also experienced lower soybean yields in 2015. Iowa and Minnesota had higher corn and soybean yields in 2015, which resulted in lower payments. Nebraska, where wheat base acres account for 12 percent of all base acres, experienced a large fall in wheat yields that compounded the effect of much lower wheat prices and offset the effect of small increases in corn and soybean yields.

The number of farms receiving ARC-CO payments in any particular state varies from year to year. At the national level, 923,924 farms received ARC-CO payments across all covered commodities in 2015, and the number of farms increased to 1,208,392 in 2016. Iowa, Nebraska, Indiana, and Illinois had more farms that received ARC-CO payments in 2016 than in 2015. The average payment per farm increased in Illinois and Indiana, and declined in Iowa, Minnesota, and Nebraska (last column in Table 2).

Payments by county in Iowa

In Iowa, 22,528,220 base acres of covered commodities were elected into the Farm Bill programs, the equivalent of 9.3 percent of the national total (excluding generic acres). Corn and soybean base acres account, respectively, for 69 percent and 30 percent of all base acres. ARC-CO is the preferred program, with 97 percent of all base acres.

Since detailed information on the number of base acres per covered commodity, county, and program is not publicly available, the best possible approximation to county payments that can be calculated using official data

Table 1. Total U.S. ARC-CO/PLC Payments in 2014 and 2015, by Covered Commodity

Covered Commodity	Base acres elected into ARC-CO/PLC		2014/15 ARC-CO/PLC payments		2015/16 ARC-CO/PLC payments		2015/16 vs. 2014/15
	Number of Acres	% of Total	Dollars	% of Total	Dollars	% of Total	% Change
Corn	96,768,447	40%	\$3,748,793,917	71%	\$4,072,355,927	53%	9%
Soybeans	54,514,972	22%	\$324,623,758	6%	\$1,082,636,570	14%	234%
Other*	91,071,787	38%	\$1,186,226,030	23%	\$2,504,695,627	33%	111%
U.S. total	242,355,206	100%	\$5,259,643,705	100%	\$7,659,688,124	100%	46%

*Other covered commodities include barley, canola, chickpeas, crambe, flaxseed, lentils, mustard, oats, peas, rapeseed, safflower, sesame, sorghum, and sunflower.

Table 2. ARC-CO Payments in Selected States, Total and Average per Farm Paid

State	Total Payment			Average payment per farm paid*		
	2014/15	2015/16	Change	2014/15	2015/16	Change
Illinois	\$234,772,932	\$904,199,880	\$669,426,948	\$3,900	\$6,197	\$2,297
Indiana	\$153,514,276	\$529,577,483	\$376,063,207	\$2,509	\$5,746	\$3,237
Iowa	\$907,407,794	\$656,361,515	-\$251,046,279	\$7,576	\$4,868	-\$2,708
Minnesota	\$678,862,759	\$390,439,265	-\$288,423,494	\$7,748	\$5,395	-\$2,353
Nebraska	\$620,801,639	\$634,924,778	\$14,123,139	\$8,674	\$8,436	-\$238
Other States	\$1,890,515,567	\$2,704,721,647	\$814,206,080	\$3,611	\$3,932	\$321
US Total	\$4,485,874,967	\$5,820,224,568	\$1,334,349,601	\$4,855	\$4,817	-\$39

*Total ARC-CO payment / number of ARC-CO farms paid

Table 3. Average Farm Bill Payments per Base Acre in Iowa, by Crop Reporting Districts

Covered Commodity and District	ARC-CO				PLC		
	2014/15	2015/16e	2016/17f A	2016/17f B	2014/15	2015/16e	2016/17f
Corn							
CRD1	\$74.53	\$38.24	\$0.80	\$15.72	\$0.00	\$11.65	\$38.84
CRD2	\$72.00	\$38.69	\$5.17	\$25.20	\$0.00	\$11.02	\$36.73
CRD3	\$71.97	\$49.82	\$16.34	\$39.81	\$0.00	\$10.93	\$36.45
CRD4	\$60.62	\$40.23	\$8.78	\$29.39	\$0.00	\$11.16	\$37.19
CRD5	\$47.97	\$36.07	\$6.05	\$29.45	\$0.00	\$11.00	\$36.66
CRD6	\$58.76	\$58.18	\$30.61	\$53.44	\$0.00	\$10.89	\$36.31
CRD7	\$38.21	\$27.61	\$11.53	\$14.76	\$0.00	\$9.76	\$32.54
CRD8	\$0.57	\$1.35	\$3.75	\$9.47	\$0.00	\$7.72	\$25.73
CRD9	\$1.19	\$11.87	\$13.51	\$10.75	\$0.00	\$9.18	\$30.59
State Average	\$47.70	\$33.51	\$10.35	\$25.14	\$0.00	\$10.40	\$34.65
Soybeans							
CRD1	\$18.37	\$6.99	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CRD2	\$19.78	\$1.26	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CRD3	\$19.43	\$23.99	\$0.00	\$4.23	\$0.00	\$0.00	\$0.00
CRD4	\$2.13	\$9.63	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CRD5	\$17.54	\$23.88	\$0.00	\$3.47	\$0.00	\$0.00	\$0.00
CRD6	\$4.63	\$31.88	\$0.00	\$7.98	\$0.00	\$0.00	\$0.00
CRD7	\$3.65	\$16.51	\$0.00	\$1.44	\$0.00	\$0.00	\$0.00
CRD8	\$2.78	\$13.03	\$0.00	\$2.95	\$0.00	\$0.00	\$0.00
CRD9	\$1.60	\$16.15	\$0.00	\$1.05	\$0.00	\$0.00	\$0.00
State Average	\$10.19	\$15.68	\$0.00	\$2.26	\$0.00	\$0.00	\$0.00

is per base acre of corn and soybeans. ISU Extension and Outreach developed several tools to help farmers calculate their expected payments by county, commodity, and program (available on the Ag Decision Maker website at <https://www.extension.iastate.edu/agdm/info/farmbill.html>). A visual tool showing the dispersion of ARC-CO and PLC payments per base acre across all 99 counties in Iowa is available on the CARD website at <http://card.iastate.edu/tools/farm-bill/arc-plc/>.

Table 3 lists the simple average ARC-CO and PLC payments per base acre for each crop reporting district (CRD) and for the state (after 6.8 percent sequestration). Crop reporting districts are numbered from west to east, and north to south (i.e., CRD1 is the northwest district, and CRD8 is the south-central district). The averages hide substantial variability across counties, but are indicative of the overall trends. For 2014/15 and 2015/16, official FSA prices and county yields are used in the calculation of actual county revenues. Comparing ARC-CO payments versus PLC payments for each year (horizontally in Table 3), it becomes apparent that ARC-CO payments per base acre were generally higher than PLC payments in 2014/15 and 2015/16 (except for some counties with exceptionally high corn yields in 2015 concentrated in CRD8). Comparing across covered commodities (vertically in Table 3), corn payments exceed soybean payments within each program for 2014/15 and 2015/17 in all CRDs (only four counties had higher payments per base acre for soybeans than for corn in 2014/15, and 17 counties in 2015/16).

Two scenarios are projected for ARC-CO payments in 2016/17, based on different yield projections. In scenario A, yields in 2016/17 are

projected as 2015/16 county yields times the ratio of 2016-to-2015 yields for the state of Iowa (1.06 for corn, and 1.07 for soybeans). In scenario B, yields in 2016/17 are projected equal to the highest of yields in 2014/15 or 2015/16. The marketing year average prices for 2016/17 correspond to the midpoint of USDA's projections as of January 12, 2017: \$3.40 for corn and \$9.50 for soybeans. Both scenarios are unrealistic per se, but provide a reasonable projection of the range of possible payments. The visual tool available on the CARD website includes updated price and yield projections. As official county yield estimates and new price projections become available from USDA, the tools in the CARD website and the Ag Decision Maker website will continue to be updated.

Under both scenarios, ARC-CO payments for corn and soybeans in 2016/17 are projected lower than in 2015/16 for most counties (only nine counties under scenario A and 22 counties under scenario B are projected to have higher ARC-CO payments per corn base acre). The main reason behind the projected decline in ARC-CO payments is the decline in Olympic average prices (-9.5 percent to \$4.75 for corn, and -3.3 percent to \$11.87 for soybeans) due to the roll-out of 2010/11 prices from the Olympic average and the roll-in of the much lower 2015/16 prices. Note that the Olympic average price is multiplied by the Olympic average yield to calculate the ARC-CO revenue guarantee. At the state level, the Olympic average yield increased by 5.2 percent for corn and 1.8 percent for soybeans in 2016/18. The ARC-CO revenue guarantee declined, on average, by 5.3 percent to \$706 per corn base acre, and 1.6 percent to \$521 per soybean base acre.

PLC payments in Iowa are expected to become significant for the first time since the inception of the Farm Bill. In other states, such as Arkansas and Texas, PLC payments for peanuts, wheat, and rice base acres have been significant since 2014/15.

PLC payments per corn base acre are projected to surpass ARC-CO payments in most Iowa counties (only six counties under scenario A and 33 counties under scenario B are projected to have higher ARC-CO payments). However, due to the small proportion of base acres elected into PLC in Iowa, the overall impact of these higher payments will be minor.

In conclusion, ARC-CO and PLC payments have funneled a considerable amount of resources to the agricultural sector in times of low profit margins. In particular, ARC-CO has been instrumental in cash flowing operations in Iowa counties where payments were triggered. However, corn payments were not triggered in 23 counties in 2014/15 and 16 counties in 2015/16, and soybean payments were not triggered in 50 and 33 counties, respectively. For 2016/17, ARC-CO is expected to provide payments in fewer counties, and at substantially lower levels. Due to the rolling nature of the Olympic averages, the revenue guarantee for corn and soybean base acres is expected to decline further in 2017/18 and result on a shrinking safety net for Iowa farmers. ■