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Weekly Farm Economics: Would Commodity Title Choices Change Given COVID-19?

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The Coronavirus pandemic and COVID-19 control measures have resulted in dramatically lower commodity prices, leading to questions about whether commodity program selections would be different after COVID-19. Herein we present an analysis of Price Loss Coverage (PLC) and Agricultural Risk Coverage (ARC) payments pre and post-COVID 19. The analysis suggests that for the majority of situations where PLC for corn and ARC at the county level (ARC-CO) for soybeans were expected to trigger larger payments prior to COVID-19, those choices would continue to result in the largest expected payments in the current post-COVID environment. In areas where ARC-CO for corn was elected based on pre-COVID price expectations, current prices might suggest a different program choice. For situations where ARC at the Individual level (ARC-IC) was chosen, the impacts of COVID-19 may have resulted in larger expected payments from an alternative program but will be dependent on farm specific variables. Policy alternatives are presented in the final section.

Background

By March 15, farmers chose between three programs for receiving commodity title payments: Price Loss Coverage (PLC), Agricultural Risk Coverage at the County Level (ARC-CO), and ARC at the Individual level (ARC-IC). Those decisions applied to both 2019 and 2020. A decision to use ARC-IC was applicable to the entire Farm Service Agency (FSA) farm. If ARC-IC was not chosen, farmers could make a choice by program crop. For example, PLC could have been chosen for corn, and ARC-CO could have been chosen for soybeans.

Recently, the Farm Service Agency (FSA) released data on program choices on a national basis (see *farmdoc daily*, [April 30, 2020](#)):

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- 75% of base acres in corn were enrolled in PLC,
- 80% of base acres in soybeans were enrolled in ARC-CO,
- 93% of base acres in wheat were enrolled in PLC.

Although PLC and ARC-CO dominate base acres for these three commodities, ARC-IC was selected on significantly more corn and soybean base acres as compared to the 2014 Farm Bill program selections: 6.9% of corn base acres and 6.2% of soybean base acres. While FSA has not released disaggregated program choice data, we suspect more acres were enrolled in ARC-IC in areas where prevent plant was widely prevalent in 2019 (see *farmdoc daily* [August 15, 2019](#) for a map), because ARC-IC will make large payments on farms that were entirely prevent plant and the selections were applicable to both the 2019 and 2020 program years. Areas of large prevent plant in 2019 include the eastern corn belt (Ohio, Indiana, Illinois, and Wisconsin) and part of the Great Plains (North and South Dakota).

Questioning Commodity Title Choices

These commodity title program decisions were made before COVID control measures were implemented, leading to sharp declines in corn and soybean prices. Those price declines could have changed the commodity title program that would generate the highest expected payments over 2019 and 2020. Some corn and soybean farmers may now be questioning their commodity title choices.

Herein we present an analysis of commodity title choices using two sets of prices: one for the pre-COVID situation and one for the post-COVID situation. Table 1 shows those Market Year Average (MYA) price estimates under the two scenarios, with more background on those prices given in an [April 28, 2020](#) *farmdoc daily* article.

Marketing Year	Corn			Soybeans		
	Pre-COVID	Post-COVID	Change	Pre-COVID	Post-COVID	Change
2019	3.85	3.50	-9.1%	8.75	8.50	-2.9%
2020	3.70	3.20	-13.5%	8.80	8.15	-7.4%
2021	3.60	3.40	-5.6%	8.70	8.30	-4.6%

¹ Estimates of Post-COVID scenario made on April 24, 2020.

Estimates of commodity title payments will be made for three different counties:

- Champaign County, Illinois — a typical county in which farmers likely chose PLC for corn and ARC-CO for soybeans.
- LaSalle County, Illinois — a county where more farmers chose ARC-IC on prevent plant acres.
- Iroquois County, Illinois — a county where farmers might have chosen ARC-CO for corn because ARC-CO had larger projected payments under pre-COVID prices.

PLC and ARC-CO payments are estimated for both corn and soybeans for 2019 and 2020. Assumptions used in these calculations are:

- PLC yields equal the average of the county yields from 2013 to 2017, times .81. This is the updating formula contained in the 2018 Farm Bill. Updating is applicable for 2020 and forward years. It was not applicable to 2019. For simplicity, and because original and updated yields often did not vary much, we used the updated yield for 2019 as well.
- For 2019, FSA has reported benchmark revenues for ARC-CO. Payments are estimated with pre and post-COVID prices. FSA has not reported county yields for 2019. County yields reported by

National Agricultural Statistical Service (NASS), adjusted for usual differences between NASS and FSA yields, are used in county yield estimates (see *farmdoc Daily*, February 21, 2020 and February 23, 2020 for more background)

- For 2020, ARC-CO payments are estimated at trend yields, resulting in payment estimates of \$0 per acre under all corn and soybean price scenarios.

While only three counties are presented here, estimates have been made for all counties in the U.S. for which NASS yields are available. Those estimates are available here in a Microsoft Excel spreadsheet. Maps of 2019 ARC-CO payments are estimated for corn and soybeans are shown in a [May 5, 2020 *farmdoc daily*](#) article.

Champaign County, Illinois

Panel A of Table 2 shows the estimated ARC-CO and PLC payments for corn in Champaign County, Illinois. The pre-COVID price for 2019 is \$3.85 per bushel. At that price, neither ARC-CO nor PLC were projected to make a payment. The pre-COVID price in 2020 is \$3.70, again resulting in no payments for ARC-CO or PLC. As a result, the average 2019-2020 payment is \$0 for both ARC-CO and PLC.

Table2. ARC-CO and PLC Payments, Champaign County, Illinois, \$ per Base Acre								
	MYA Prices ¹	2019		MYA Prices ¹	2020		2019 - 2020 Average ⁵	
		ARC-CO ²	PLC ⁴		ARC-CO ³	PLC ⁴	ARC-CO	PLC
Panel A Corn	\$/bu	\$/acre	\$/acre	\$/bu	\$/acre	\$/acre	\$/acre	\$/acre
Pre-COVID	3.85	\$0.00	\$0.00	3.70	\$0.00	\$0.00	\$0.00	\$0.00
Post-COVID	3.50	\$18.34	\$30.00	3.20	\$0.00	\$74.90	\$9.17	\$52.45
Panel B. Soybeans								
Pre-COVID	8.75	\$55.55	\$0.00	8.80	\$0.00	\$0.00	\$27.78	\$0.00
Post-COVID	8.50	\$55.55	\$0.00	8.20	\$0.00	\$9.20	\$27.78	\$4.60
Average 2019-2020 Payment Given PLC for corn and ARC-CO for soybeans ⁶								
					\$/acre			
			Pre-COVID		\$13.89			
			Post-COVID		\$40.11			

¹ See *farmdoc daily* for a discussion of pre and post-COVID prices.

² Estimates made using 2019 benchmark revenues provided by FSA and yield estimates using NASS yields, adjusted for historical relationships between NASS and FSA yields

³ Estimated at \$0 per base acre. At a \$3.20 MYA price, county yields for corn must be below benchmark yield before payments occur. At an \$8.20 MYA price, soybean county yields must be 3% below benchmark yields before payments occur

⁴ Estimated using a PLC equal to .81 times the 2013-2017 county average.

⁵ Simple average of payments in 2019 and 2020

⁶ Assumes that 50% of bases acres are in corn and 50% in soybeans.

At post-COVID prices, ARC-CO and PLC are estimated to trigger payments for corn. The \$3.50 MYA price results in \$18.34 of ARC-CO payments and \$30.00 of PLC payments (see Panel A of Table 2). The \$3.20 price for 2020 results in \$74.90 of PLC payments in 2020. ARC-CO for 2020 is estimated to make \$0 per acre payment. The 2019-2020 average is \$9.17 for ARC-CO and \$52.45 for PLC. Farmers who chose PLC likely will receive higher commodity payments than those farmers who chose ARC-CO.

As shown in Panel B of Table 2, ARC-CO is projected to make \$55.55 per acre payments for soybeans at both the \$8.75 pre-COVID price and \$8.50 post-COVID price. ARC-CO was at its maximum at the \$8.75 pre-COVID price. As a result, lowering the MYA price does not increase the payment. PLC is not

projected to make a soybean payment in 2019, as both pre and post-COVID prices are above the \$8.40 reference price.

For 2020, PLC is projected to make a payment for soybeans at the \$8.20 post-COVID price. The payment is \$9.20 per acre and does not exceed the \$55.55 ARC-CO estimated for 2019. As a result, ARC-CO is projected to make a larger payment of \$27.89 per acre over 2019-2020 as compared to \$4.60 for PLC. Farmers who chose ARC-CO for soybeans likely will find that program to generate the highest payments over the two-year period.

LaSalle County, Illinois

Table 3 shows estimates for LaSalle County, Illinois. Note that the same results exist for LaSalle County as does for Champaign County:

- PLC is projected to make larger payments than ARC-CO for corn, and
- ARC-CO is projected to make larger payments than PLC for soybeans.

Given a choice of PLC for corn and ARC-CO for soybeans, commodity title payments are expected to average \$33.57 per acre over 2019-2020, given equal number of corn and soybean base acres (see bottom of Table 3).

Table 3. ARC-CO and PLC Payments, LaSalle County, Illinois, \$ per Base Acre								
	MYA Prices ¹	2019		MYA Prices ¹	2020		019 - 2020 Average	
		ARC-CO ²	PLC ⁴		ARC-CO ³	PLC ⁴	ARC-CO	PLC
Panel A Corn	\$/bu	\$/acre	\$/acre	\$/bu	\$/acre	\$/acre	\$/acre	\$/acre
Pre-COVID	3.85	\$0.00	\$0.00	3.70	\$0.00	\$0.00	\$0.00	\$0.00
Post-COVID	3.50	\$36.84	\$30.00	3.20	\$0.00	\$75.10	\$18.42	\$52.55
Panel B. Soybeans								
Pre-COVID	8.75	\$16.94	\$0.00	8.80	\$0.00	\$0.00	\$8.47	\$0.00
Post-COVID	8.50	\$29.17	\$0.00	8.20	\$0.00	\$8.70	\$14.59	\$4.35
Average 2019-2020 Payment Given PLC for corn and ARC-CO for soybeans ⁶								
				\$/acre				
			Pre-COVID	\$4.24				
			Post-COVID	\$33.57				

¹ See *farmdoc daily* for a discussion of pre and post-COVID prices.

² Estimates made using 2019 benchmark revenues provided by FSA and yield estimates using NASS yields, adjusted for historical relationships between NASS and FSA yields

³ Estimated at \$0 per base acre. At a \$3.20 MYA price, county yields for corn must be below benchmark yield before payments occur. At an \$8.20 MYA price, soybean county yields must be 3% below benchmark yields before payments occur

⁴ Estimated using a PLC equal to .81 times the 2013-2017 county average.

⁵ Simple average of payments in 2019 and 2020

⁶ Assumes that 50% of bases acres are in corn and 50% in soybeans.

The \$33.57 per acre value is a useful comparison for farmers who chose ARC-IC. ARC-IC likely will make a large payment for 2019 and a small payment for 2020. As long as the 2019 payment exceeds \$67 per acre, double the \$33.57 average from Table 3, ARC-IC likely will result in larger payments than a combination of PLC for corn and ARC-CO for soybeans. Farms entirely prevent plant could have payments close to and exceeding \$67 per acre. Again, the above comparison assumes a \$0 ARC-IC payment for 2020, although it is possible a payment could occur for 2020 with a triggering combination of price and yields.

Iroquois County, Illinois

More farmers may have selected ARC-CO for corn in Iroquois County as ARC-CO had a positive expected payment under pre-COVID prices. At a \$3.85 price, ARC-CO was projected to make a \$12.52 payment in 2019 (see Table 4). At the lower \$3.50 post-COVID price, ARC-CO is projected to make a higher payment for \$59.56 for corn. But PLC is projected to make payments as well: \$26.00 payment in 2019 and \$65.10 per acre in 2020. ARC-CO is currently projected to make larger payments in 2019, but PLC is projected to make larger payments in 2020. On average, PLC is projected to make an average per acre payment of \$45.55 over both 2019-2020, \$15.77 more than the \$29.78 average for ARC-CO.

Table 4. ARC-CO and PLC Payments, Iroquois County, Illinois, \$ per Base Acre								
	MYA Prices ¹	2019		MYA Prices ¹	2020		2019 - 2020 Average ⁵	
		ARC-CO ²	PLC ⁴		ARC-CO ³	PLC ⁴	ARC-CO	PLC
Panel A Corn	\$/bu	\$/acre	\$/acre	\$/bu	\$/acre	\$/acre	\$/acre	\$/acre
Pre-COVID	3.85	\$12.52	\$0.00	3.70	\$0.00	\$0.00	\$6.26	\$0.00
Post-COVID	3.50	\$59.56	\$26.00	3.20	\$0.00	\$65.10	\$29.78	\$45.55
Panel B. Soybeans								
Pre-COVID	8.75	\$47.10	\$0.00	8.80	\$0.00	\$0.00	\$23.55	\$0.00
Post-COVID	8.50	\$47.10	\$0.00	8.20	\$0.00	\$7.90	\$23.55	\$3.95
Average 2019-2020 Payment Given PLC for corn and ARC-CO for soybeans ⁶								
			\$/acre					
			Pre-COVID			\$11.78		
			Post-COVID			\$34.55		

¹ See *farmdoc daily* for a discussion of pre and post-COVID19 prices.

² Estimates made using 2019 benchmark revenues provided by FSA and yield estimates using NASS yields, adjusted for historical relationships between NASS and FSA yields

³ Estimated at \$0 per base acre. At a \$3.20 MYA price, county yields for corn must be below benchmark yield before payments occur. At an \$82.0 MYA price, soybean county yields must be 3% below benchmark yields before payments

⁴ Estimated using a PLC equal to .81 times the 2013-2017 county average.

⁵ Simple average of payments in 2019 and 2020

⁶ Assumes that 50% of bases acres are in corn and 50% in soybeans.

Commentary

Lower commodity title prices post-COVID 19 can impact expected payments on commodity title programs for which farmers made enrollment decisions in March. Some farmers may now regret choosing ARC-CO for corn. Decisions to use ARC-IC could also become questionable in certain cases.

Those judgments are still expectations. We have not even begun the 2020 marketing year. Just as expectations changed quickly because of COVID-19, they could change again.

A number of policy options have been put forward including allowing farmers to change their commodity title program selections. There may be some merit in this proposal as price expectations have changed dramatically. Still, the majority of farmers chose PLC for corn and ARC-CO for soybeans. That program choice combination for corn and soybeans seems to remain the one resulting in the largest expected payments for 2019 and 2020 in the majority of cases.

Reopening the decision will make for difficult decisions for those farmers who did not select PLC for corn and ARC-CO for soybeans. Many cases will be that the current choice has a large 2019 payment and a

smaller 2020 payment. This could be the case for those farmers choosing ARC-CO for corn or ARC-IC. If the choice is again given, those farmers will face the decision of giving up a large 2019 payment under the expectation of a larger 2020 payment. How many farmers would switch commodity title choices without the ability to split decisions is an open question.

If farmers are allowed to make commodity title choices, we have two suggestions:

1. Allow a different decision to be made between 2019 and 2020. This would allow for different decisions by year, following the practice for the remainder of the Farm Bill. Allowing different decisions would aid in avoiding the larger 2019 payment versus the large 2020 payment issue that many farmers would face.
2. Simply give farmers the higher of the ARC-CO and PLC payment for 2020. The pandemic has opened new concerns. Rather than force farmers to make a choice again, simply give the commodity title choice with the highest payment. Farmers who opted for ARC-IC initially could be given the option to enroll in ARC-CO/PLC for the higher payment of the two programs for the 2020 year.

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