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Farm Program Payments under Alternative Proposals

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Commodity program payments under alternative House and Senate proposals are estimated for corn produced in McLean County, Illinois. Payments are estimated for 2013 through 2016 given average yields for three price scenarios: 1) a $4.50 Market Year Average (MYA) price for each year from 2013 through 2016, 2) a $4.00 MYA price, and 3) a $3.50 MYA price. Under all price scenarios, the Average Crop Revenue Election (ACRE) program has higher payments than commodity programs proposed by the Senate and House Agriculture Committees.

Programs Evaluated

Payments are estimated for four programs:

1. ACRE (Average Crop Revenue Election). ACRE is the state-level revenue program instituted in the 2008 Farm Bill. This program's guarantee is 90% of the five-year Olympic average of state yields times the two-year average of MYA prices. It will make payments when state revenue is below the state guarantee and a farm's revenue is below a benchmark. Click here for more detail.
2. ARC (Agricultural Risk Coverage). ARC is a county-level revenue program contained in the 2013 Farm Bill passed by the Senate Agriculture Committee. If the Senate Bill becomes law farmers would choose between a county and a farm option. Herein, the county option is modeled. The guarantee is 88% of the five-year Olympic average of yields times the 5-year Olympic average of MYA prices. Payments are made on 80% of planted acres. More detail is provided here.
3. RLC (Revenue Loss Coverage). RLC is a county-level revenue program contained in the 2013 Farm Bill from the House Agriculture Committee. The guarantee is 85% of the 5-year Olympic average of yields times the 5-year Olympic average of MYA prices. Payments are made on 85% of planted acres. ARC and RLC are similar: ARC has an 88% coverage level compared to 85% for RLC and ARC pays on 80% of planted acres compared to 85% for RLC.
4. PLC (Price Loss Coverage). PLC is a target price program contained in the 2013 House Committee draft. If the House Bill is passed, farmers would choose between RLC and PLC. PLC will make payments when prices fall below $3.70 per bushel. The payment rate equals $3.70 minus the mid-season average of the MYA price. Payments per planted acre equal payment rate times .85 times payment yield. In most cases, the payment yield equals the average yield from 2008 through 2012 times .90. More detail is provided here.

Scenarios examined

Payments under the above four programs are estimated for a McLean County farm from 2013 through 2016. Note that a passed 2013 Farm Bill will not begin making payments until 2014; hence, the 2013 payments are included only for comparison purposes.

Payments are estimated assuming that yields are average for each year from 2013 through 2016: 167 bushel per acre state yield, 182 bushel per acre McLean County yield, and a 182 bushel per acre farm yield. For the ACRE program, farm yields also are needed. It is assumed that the farm yield equals the McLean County yield. The program yield for calculating PLC payments is 147 bushels per acre.

In these scenarios, prices are assumed to be the same in each year from 2013 through 2016. Payments are estimated for a $4.50 MYA price, close to the expected long-run average (see here for more detail). Payments are estimated for a $4.00 and $3.50 price. The $4.00 and $3.50 prices should be expected to occur with regularity in the future. However, a period of $3.50 prices likely will not persist for four years.

Estimated Payments

At a $4.50 MYA price, the only program that makes payments is ACRE (see Panel A of Table 1). ACRE makes an $18 per acre payment in 2013, an $88 payment in 2014, an $11 per acre payment in 2015, and a $0 payment in 2016. The ACRE payment rises between 2013 and 2014 because of caps included in ACRE guarantee calculation. Payments fall in 2015 and go to $0 in 2016 because the ACRE guarantee is moving down as a result of lower prices entering the guarantee calculation.

Table 1. Estimated Farm Program Payments for Corn in McLean County, Illinois Given Differing Market Year Average Prices[1,2]

	Commodity Program Payments				Crop Revenue + Program Payment			
Year	ACRE	Senate ARC	House RLC	House PLC	ACRE	Senate ARC	House RLC	House PLC
Panel A. MYA Price equals $4.50								
	$ per acre				$ per acre			
2013	18	0	0	0	837	819	819	819
2014	88	0	0	0	907	819	819	819
2015	11	0	0	0	830	819	819	819
2016	0	0	0	0	819	819	819	819
Panel B. MYA Price equals $4.00								
	$ per acre				$ per acre			
2013	94	42	22	0	822	770	750	728
2014	135	34	14	0	863	762	742	728
2015	60	34	14	0	788	762	742	728
2016	0	0	0	0	728	728	728	728
Panel C. MYA Price equals $3.50								
	$ per acre				$ per acre			
2013	170	89	89	25	807	726	726	662
2014	178	85	73	25	815	722	710	662
2015	107	85	71	25	744	722	708	662
2016	43	32	15	25	680	669	652	662

[1] Payments are for Average Crop Revenue Election (ACRE) -- revenue program under the 2008 Farm Bill, Agricultural Revenue Coverage (ARC) -- proposed county revenue program by Senate Agricultural Committee, Revenue Loss Coverage (RLC) -- proposed county revenue program by House Agricultural Committee, Price Loss Coverage (PLC) -- proposed target price program by House Agriculture Committee.

[2] Payments estimated for 2013 to 2016 based on yields for the state of 168 bushels per acre for Illinois and 182 bushels per acre for McLean County. The farm has the same yields as the county. Yields are the same for each year. Market Year Average prices are indicated in each panel. MYA price is the same each year from 2013 through 2016.

Besides giving commodity program payments, Table 1 also shows crop revenue plus commodity program payments. These revenues can be compared to costs to gain a feel for whether revenue covers costs. In 2012, non-land costs in central Illinois average $560 per are and cash rent averaged $280 per acre, giving total costs for cash rent farmland of $840 per acre. In panel A, all revenues are below $840, except for the $907 revenue plus program payment under ACRE in 2014. ACRE provides a period for adjusting to lower revenues.

Panel B of Table 1 shows payments given a $4.00 MYA price. ACRE, ARC, and RLC make payments in 2013 through 2015. None of these revenue programs make payments in 2016. ACRE makes larger payments than ARC, which makes larger payments than RLC. In 2013, ACRE makes a $135 per acre payment, ARC a $34 payment, and RLC makes a $14 payment. PLC, the House target price program, does not make any payments because the $4.00 MYA is above the $3.70 effective price where PLC payments would begin to be paid.

Note that under a $4.00 price, only the $863 revenue under ACRE in 2013 is above the $840 total costs. Farms would have to adjust the costs to a lower price regime, most likely by reducing cash rents.

Panel C of Table 1 shows payments under a $3.50 MYA price. Again, ACRE has the highest payments. In 2014, payments are $178 per acre under ACRE, $85 per acre under ARC, $73 per acre under RLC, and $25 under PLC. Under the three revenue programs, payments decline from 2014 through 2016. As it is a target price program, payments do not decrease under PLC. Compared to the revenue programs, PLC makes relatively small payments.

At a $3.50 price, gross revenue plus program payments under all the programs are below the $840 per acre in total costs.

Summary and Observations

Four observations from the above comparisons:

1. None of the proposed 2013 programs provide as large as payments as the ACRE program. Besides having direct payments eliminated, farmers growing corn will be receiving lower risk support from a revenue based program under the 2013 Farm Bill as compared to ACRE.
2. PLC, the House target price program, provides very little protection at price scenarios that have a good chance of occurring over the next several years.
3. Generally, ARC will make larger payments than RLC.
4. None of the programs proposed in the 2013 Farm Bill prevent revenue from going below costs under low prices. The programs may aid in buffering cash shortfalls, but will not prevent occurrences of financial stress.