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The Food, Conservation and Energy Act of 2008:

Preliminary Analysis of Selected Provisions

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Contact authors for FAPRI–MU Report #08-08 Pat Westhoff (westhoffp@missouri.edu) and Scott Brown (brownsc@missouri.edu).

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Prepared by the Food and Agricultural Policy Research Institute
The University of Missouri
101 Park DeVille Drive, Suite E
Columbia, Missouri 65203
www.fapri.missouri.edu
573-882-3576

Food and Agricultural Policy Research Institute

FAPRI

Summary

The Food, Conservation and Energy Act (FCEA, the 2008 farm bill) modifies farm commodity and biofuel support policies and creates a new Average Crop Revenue Election (ACRE) program. This report provides preliminary analysis of impacts of selected FCEA provisions:

- Increase in target prices and loan rates for several farm commodities
- Reduction in the target price for cotton
- Reduction in the share of base acreage eligible for direct payments
- Delays in the timing of direct and countercyclical payments (CCPs)
- Modification of the dairy price support and Milk Income Loss Contract (MILC) programs
- Extension of the ethanol specific tariff and reduction in the ethanol tax credit
- Creation of a program to make payments to domestic users of cotton
- Creation of the ACRE program

Other commodity provisions of the farm bill, such as changes in payment limitation rules, are not considered in this preliminary analysis, nor are measures not directly related to farm commodity or biofuel programs. The point of reference for the analysis is the stochastic baseline prepared by the Food and Agricultural Policy Research Institute (FAPRI) at the University of Missouri–Columbia (MU) in early 2008.

Relative to a simple extension of previous law, most of the selected provisions of FCEA not related to ACRE would have only modest impacts on commodity markets, farm program expenditures and consumer food prices.

- For most commodities, the changes in target prices and loan rates are likely to have little market impact, as projected prices are generally far above levels that would trigger payments.
- The one exception is upland cotton. Lower cotton target prices translate into slightly lower CCPs to cotton producers.
- Changing the timing of payments affects estimates of the fiscal year taxpayer cost of farm programs, but does not affect the amounts that eventually will be paid to producers.
- Basing the price triggering MILC payments on feed costs is likely to generate a higher payment trigger, but milk prices are expected to be high enough that few payments result.
- Extending the $0.54 per gallon specific tariff on ethanol imports for two more years results in lower ethanol imports and slightly higher prices for ethanol and corn.
- In contrast, reducing the ethanol tax credit to $0.45 per gallon from the current $0.51 per gallon would tend to reduce ethanol and corn producer prices. The tariff effect is slightly larger than the tax credit effect, so average corn and ethanol prices increase slightly.
- The cotton user program slightly increases domestic cotton mill use and cotton prices.

The ACRE program could have significant effects on producer income and taxpayer costs. On a crop year basis, the program increases net farm program payments by an average of more than $1 billion per year and the potential expenditures are much larger. Given program rules and estimated payments, the ACRE program appears much more likely to appeal to producers of feed grains, wheat and soybeans than to producers of cotton, rice and peanuts. Thus, the program is more likely to be attractive to producers in northern states than in southern states.

When a new FAPRI baseline is prepared, it is likely to show a different path of projected average crop prices. So, impacts of ACRE and other FCEA provisions will differ from those reported here.

Introduction

After a lengthy process, the Food, Conservation and Energy Act (FCEA, the 2008 farm bill) has become law. The bill is hundreds of pages long and encompasses a wide range of measures related to farm commodity programs, nutrition, conservation, energy and much more.

This report is limited in scope. It examines only selected provisions of the commodity and energy titles of the farm bill. Relative to provisions of the 2002 farm bill, FCEA requires:

- Higher target prices for wheat, soybeans, barley, oats and minor oilseeds.
- A lower target price for upland cotton.
- Higher loan rates for wheat, barley, oats, minor oilseeds and sugar.
- A reduction in the share of base acreage eligible for direct payments from 2009-2011.
- Delays in the issuance of direct and countercyclical payments.
- Specific price support levels for butter, cheese and nonfat dry milk.
- An increase in the amount of milk eligible for Milk Income Loss Contract (MILC) payments and a payment trigger that can increase when feed prices are high.
- Extension of the ethanol specific tariff and reduction in the ethanol tax credit.
- Creation of a program to make payments to domestic users of cotton.
- Creation of the Average Crop Revenue Election (ACRE) program, which is to make payments to producers when a measure of state-level revenues per acre falls below trigger levels.

Other FCEA provisions may have important impacts, but they are not considered in this report. The commodity title includes changes in payment limitation rules, cotton loan program provisions, and sugar marketing allotments that are not included in this analysis. Changes in the food stamp program, conservation programs, disaster programs and other measures could also have important commodity market impacts that are not considered here.

The point of comparison for the analysis is the stochastic baseline for US commodity markets prepared by the Food and Agricultural Policy Research Institute (FAPRI) at the University of Missouri–Columbia (MU) in early 2008.[1] The stochastic baseline provides 500 alternative outcomes for commodity markets that differ from one another because of assumptions about crop yields, petroleum prices and other factors that affect supply and demand in agricultural and biofuel markets. All of the baseline outcomes are based on the same assumption that policies in effect in early 2008 would remain in place indefinitely.

The report is organized in two sections. The first section examines the combined impact of all the provisions analyzed other than the ACRE program. The second section focuses on the ACRE program.

Selected provisions other than ACRE

A slightly modified[2] version of the 2008 FAPRI–MU baseline is used to examine the impacts of selected FCEA provisions on agricultural and biofuel markets (tables 1a and 1b).

[1] "US Baseline Briefing Book," FAPRI–MU Report #03-08, available at http://www.fapri.missouri.edu/outreach/publications/2008/FAPRI_MU_Report_03_08.pdf.

[2] The baseline prepared in early 2008 assumed that biofuel tax credits and tariffs would remain at 2008 levels indefinitely. The baseline for this analysis assumes that biofuel tax and tariff provisions expire as previously scheduled (the end of 2008 for the ethanol tariff and the end of 2010 for the ethanol tax credit).

Table 1a. Selected provisions of FCEA and their impacts, excluding ACRE

	Pre-farm bill policies	Selected FCEA policies (exc. ACRE)	Absolute difference	Percentage difference
Policy provisions*		(Dollars per gallon)		
Ethanol tax credit, 2009-2010	0.51	0.45	-0.06	-11.8%
Ethanol specific tariff, 2009-2010	0.00	0.54	0.54	n.a.
		(Dollars per bushel)		
Soybean target price, 2010/11-2012/13	5.80	6.00	0.20	3.4%
Wheat target price, 2010/11-2012/13	3.92	4.17	0.25	6.4%
Wheat loan rate, 2010/11-2012/13	2.75	2.94	0.19	6.9%
		(Cents per pound)		
Cotton target price, 2010/11-2012/13	72.40	71.25	-1.15	-1.6%
Cotton user payment, 2008/09-2011/12	0.00	4.00	4.00	n.a.
		(Share)		
Base eligible for DPs, 2009/10-2011/12	85.0%	83.3%	-1.7%	-2.0%
DPs available in advance, 2012/13	22.0%	0.0%	-22.0%	-100.0%
CCPs available in advance, 2012/13	40.0%	0.0%	-40.0%	-100.0%
	(Dollars per hundredweight, 2008-2012 average)			
MILC payment trigger	16.94	17.26	0.32	1.9%
Crop prices	(Dollars per bushel, 2008/09-2012/13 average)			
Corn	3.76	3.78	0.02	0.5%
Soybeans	9.93	9.94	0.01	0.1%
Wheat	5.19	5.20	0.01	0.3%
	(Cents per pound, 2008/09-2012/13 average)			
Upland cotton	62.68	62.92	0.24	0.4%
Crop acreage	(Million acres, 2008-2012 average)			
Corn	92.26	92.53	0.27	0.3%
Soybeans	70.96	70.88	-0.08	-0.1%
Wheat	58.58	58.55	-0.03	-0.1%
Upland cotton	10.79	10.76	-0.03	-0.2%
12 crop total	255.66	255.80	0.14	0.1%
Meat and milk production	(Billion pounds, 2008-2012 annual average)			
Beef production	27.36	27.36	0.00	0.0%
Pork production	22.86	22.85	-0.01	0.0%
Broiler production	37.23	37.21	-0.02	-0.1%
Milk production	196.23	196.22	-0.02	0.0%
Livestock and dairy prices	(Dollars per hundredweight, 2008-2012 annual average)			
Steers, Nebraska direct	91.23	91.29	0.06	0.1%
Barrows & gilts, 51-52% lean	50.29	50.37	0.08	0.2%
Broilers, 12-city wholesale	74.41	74.52	0.10	0.1%
All milk	17.09	17.09	0.00	0.0%

*Not shown are changes in target prices and/or loan rates for sorghum, barley, oats, minor oilseeds and sugar.

Table 1b. Selected provisions of FCEA and their impacts, excluding ACRE, continued

	Pre-farm bill policies	Selected FCEA policies (exc. ACRE)	Absolute difference	Percentage difference
Crop year government payments	(Million dollars, 2008/09-2012/13 annual average)			
Direct payments	5,193	5,131	-62	-1.2%
Marketing loan benefits	300	293	-6	-2.2%
Countercyclical payments	464	394	-70	-15.0%
ACRE payments	0	0	0	n.a.
Sum of above	5,957	5,819	-138	-2.3%
Corn	2,092	2,067	-25	-1.2%
Soybeans	590	583	-7	-1.1%
Wheat	1,123	1,112	-10	-0.9%
Upland cotton	1,257	1,168	-88	-7.0%
Rice	475	470	-6	-1.2%
Peanuts	119	117	-2	-1.6%
Sorghum, barley and oats	282	281	-1	-0.4%
Minor oilseeds	20	21	1	3.1%
Fiscal year net CCC outlays	(Billion dollars)			
FY 2008 - FY 2012 annual average	10.75	10.46	-0.29	-2.7%
FY 2008	12.95	12.97	0.01	0.1%
FY 2009	10.35	10.38	0.03	0.3%
FY 2010	10.05	9.98	-0.07	-0.7%
FY 2011	10.16	10.07	-0.09	-0.9%
FY 2012	10.23	8.90	-1.33	-13.0%
FY 2008-FY 2012 total	53.74	52.31	-1.44	-2.7%
Farm income	(Billion dollars, 2008-2012 annual average)			
Crop receipts	165.31	165.71	0.40	0.2%
Livestock receipts	138.47	138.57	0.10	0.1%
Government payments	10.93	10.78	-0.14	-1.3%
Rent to non-operator landlords	13.41	13.46	0.05	0.4%
Other production expenses	267.10	267.30	0.20	0.1%
Total production expenses	280.51	280.75	0.25	0.1%
Other net farm income	49.65	49.65	0.00	0.0%
Net farm income	83.85	83.96	0.11	0.1%
	(Dollars per acre)			
Value of farm real estate, 1/1/2012	2,749	2,754	5.02	0.2%
	(Billion dollars, 2008-2012 annual average)			
Consumer food expenditures	863.29	863.46	0.18	0.0%

Biofuel provisions

As described in a previous FAPRI–MU report,[3] reducing the tax credit to $0.45 per gallon and extending the ethanol tariff for two more years have offsetting impacts on producer prices for corn and ethanol in 2009 and 2010. All else equal, reducing the ethanol tax credit would be expected to result in lower producer prices and higher consumer prices for ethanol. Lower ethanol prices would reduce the profitability of ethanol production, resulting in weaker demand for corn to make ethanol. The result would be a modest reduction in corn prices.

Extending the ethanol tariff, on the other hand, would discourage imports of ethanol directly from Brazil. All else equal, this would result in slightly higher US producer and consumer prices for ethanol. These higher prices would encourage increased ethanol production, resulting in more demand for corn and higher corn prices.

In the model, these two effects largely cancel each other out in terms of ethanol production and corn prices. In combination, the effect of extending the $0.54 per gallon ethanol tariff for two years is marginally greater than the effect of reducing the ethanol tax credit by $0.06 per gallon over those same two years. The net effect of these and other FCEA changes is a very small (less than one percent) increase in corn prices, which contributes to even smaller increases in prices of other crops due to substitution effects.

A lesson of that report, however, is that the results are sensitive to the market environment. The impacts of changing tariffs and tax credits for biofuels will have a larger effect if quantities exceed the mandated use levels set out in the Energy Independence and Security Act (EISA). Conversely, if the biofuel use mandates are binding, then changing tariffs and tax credits may have much less effect on the quantities of ethanol production and use, and consequently cause few changes in agricultural commodity markets. The dependency of the outcome on the surrounding context highlights the potential for revisions to these estimates if updated for more recent market events, such as rising petroleum prices and a smaller corn crop. But, the fact that these two policy changes work in opposite directions likely limits their combined overall potential to affect markets.

Target prices

Increasing target prices for wheat, soybeans, barley, oats and minor oilseeds would have the effect of increasing countercyclical payments (CCPs) if season average market prices for those commodities were to fall below trigger levels (the target price minus the direct payment rate). Average prices in the stochastic baseline for those commodities are all well above the levels that would trigger CCPs, even at the new higher target prices. In only a few of the 500 stochastic outcomes are prices low enough to trigger CCPs, so the average results reported show only small impacts for most commodities.

In contrast to other commodities, upland cotton target prices are reduced slightly under FCEA. Upland cotton and peanuts are the only two commodities with significant CCPs in the baseline, as prices are low enough to generate payments under most of the stochastic outcomes. Thus, the reduction in cotton target prices does reduce average cotton CCPs. In fact, this reduction in average cotton CCPs is significantly larger than the combined increase in CCPs for other crops, so total CCPs actually decline. This may seem a strange result, given the fact that target prices for all but one commodity either stay the same or increase, but can be explained by the baseline market situation.

[3] "Biofuels: Impact of Selected Farm Bill Provisions and Other Biofuel Policy Options," FAPRI–MU Report #06-08, available at: http://www.fapri.missouri.edu/outreach/publications/2008/FAPRI_MU_Report_06_08.pdf.

Loan rates

FCEA also increases loan rates for wheat, barley, oats, minor oilseeds and sugar. Once again, given the projected average prices in the baseline, the impacts of these higher loan rates are very small. Only in a few of the stochastic outcomes are market prices for the affected commodities low enough to trigger loan program benefits, even after the FCEA increase in loan rates.

A possible exception to this rule is sugar. All else equal, the higher sugar loan rate would increase the likelihood that market prices would be supported by the loan program, at a potential taxpayer cost. However, the change in sugar loan rates is part of a broader set of sugar program changes that are not evaluated here. Thus, it would be inappropriate to overemphasize the impact of the loan rate increase in isolation.

Cotton user payments

FCEA creates a program that would pay domestic millers $0.04 for each pound of cotton that they use in the 2008/09 to 2011/12 crop years, declining to $0.03 per pound in 2012/13. All else equal, this provision increases domestic use of cotton and increases domestic cotton prices. However, these higher US prices discourage US cotton exports. The net effect is only a very modest increase in cotton prices.[4]

Base eligible for direct payments

As a budget reduction measure, FCEA reduces the share of base acreage eligible for direct payments from the current 85 to 83.3 percent for the 2009/10 to 2011/12 marketing years only (the share reverts to 85 percent in 2012/13). This marginally reduces direct payments, but has little effect on commodity markets.

Delays in the timing of payments

Under the 2002 farm bill as revised by subsequent legislation, producers could receive 22 percent of their direct payments as early as December of the year prior to the year in which the crop is harvested, with the rest available in October. Under FCEA, starting with the 2012/13 crop no direct payments would available until October of the year in which the crop is harvested. This has no impact on total payments to producers in nominal terms, but the delay affects the cash flow of producers and reduces the real value of the payments. The delay shifts budgetary outlays from fiscal year 2012 to fiscal year 2013.

Likewise, the 2002 farm bill allows 40 percent of expected CCPs to be made before the end of the marketing year. Starting with the 2011/12 crop, FCEA would prohibit these advanced CCPs and require all payments to be made in October of the year after the year in which the crop is harvested. This has the effect of shifting some CCPs that would have been made in fiscal year 2012, to fiscal year 2013. Although it does not change the amount of CCPs due for a particular crop, it does affect producers' cash flow because of the change in timing of when they get payments.

These delays in payments are often referred to as "timing shifts," and they account for the discrepancy between the reported changes in crop year payments and in fiscal year outlays. Crop year payments for all program crops decline by an annual average of $138 million relative to the baseline, while fiscal year net farm program outlays by the Commodity Credit Corporation (CCC) decline by an annual average of $287 million, with almost all of the reduction in fiscal year 2012.[5]

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[4] Considered by itself, the cotton user payment increases the average price of US cotton by 0.3 percent. The 0.4 percent increase reported in table 1a reflects all the selected FCEA provisions in combination.
[5] The figures reported in table 1b reflect the net effect of all the selected FCEA provisions in combination. A separate analysis (not shown) to separate the effects of the timing shifts from other provisions found that the timing shifts alone reduced total outlays over the fiscal year 2008-2012 period by $1.32 billion.

Dairy program provisions

Under previous farm legislation, a price support level was established for milk and the USDA had some discretion in setting support levels for butter, cheese and nonfat dry milk. FCEA replaces the support price for milk with fixed support prices for butter, cheese and nonfat dry milk. Since the levels specified are the same as those currently in effect, there is no practical effect on the dairy market in the short run. The change would only be important if market conditions would change and USDA might otherwise choose to adjust relative support levels for the various products.

The change could have implications under World Trade Organization (WTO) rules. By supporting particular dairy products rather than all milk, it is argued by some that the US could reduce the value of dairy price support notified to the WTO since only these particular products are being supported and not all milk produced, as has been the case in the past. This could prove important if a future WTO agreement reduces allowed levels of trade-distorting internal supports.

FCEA also modifies rules governing the MILC program. A larger share of the nation's milk production would become eligible for program payments as the payment cap increases to 2.985 million pounds relative to the 2.4 million pound cap under old MILC provisions. Also, the current payment trigger of $16.94 per hundredweight will be allowed to increase each month if the dairy ration cost reported in USDA's "Agricultural Prices" exceeds $7.35 per hundredweight. In many of the stochastic outcomes, feed prices increase sufficiently to generate an increase in the MILC payment trigger. However, few additional payments under the program result. When high feed prices trigger an increase in the MILC payment trigger, they also discourage milk production, resulting in higher milk prices. In only a few stochastic outcomes milk prices fall to levels that would trigger MILC payments.

ACRE provisions

The ACRE program is arguably the most important commodity program change in the 2008 farm bill. Instead of basing payments on fixed target prices, loan rates or direct payment rates, the ACRE program makes payments when per-acre revenues for a given crop in a given state fall below a trigger level. These trigger levels are based on moving averages of national average prices and state-level yields.

Beginning in 2009, producers are given the option of staying with the current program or switching to the ACRE program for all commodities on their farm. Once someone chooses to enroll in the ACRE program, they must stay in the program through 2012, when FCEA is set to expire. Participants must agree to forego 20 percent of their direct payments and all of their CCPs, and they would also have to accept a 30 percent reduction in loan rates.

Under ACRE, a benchmark level of state revenue per planted acre is established for each crop. The benchmark revenue is based upon:

1. A two-year moving average of national season-average farm prices and
2. A five-year Olympic average (average of the last five years, excluding the high and the low) of state yields per planted acre.

To calculate the benchmark revenue, the moving average price is multiplied by the Olympic average yield, and the product is multiplied by 0.9. Furthermore, the benchmark revenue is not allowed to change by more than 10 percent from one year to the next.

Participating producers in a state may be eligible for ACRE payments if the national season average farm price multiplied by the state average yield per planted acre is less than the benchmark revenue. To

receive payments, producers must also experience a loss on their operation.[6] The state-average payment rate makes up the difference between the benchmark revenue and the actual revenue, but cannot be more than 25 percent of the benchmark revenue. ACRE payments are available on 83.3 percent of planted acres in 2009, 2010, and 2011, and 85 percent of planted acres in 2012.

To isolate the impacts of ACRE, a scenario that incorporates the ACRE provisions is compared to the scenario that includes the selected FCEA provisions other than ACRE (tables 2a and 2b).

To conduct even this preliminary analysis required significant enhancements of the FAPRI-MU stochastic model.[7] The results should be seen as tentative, but they nevertheless demonstrate a number of important aspects of the program.

- In any given year for any given state and any given commodity, the most likely outcome is that ACRE payments will be zero. Only if prices and/or state-level yields are below recent averages will payments occur.

- When ACRE payments occur, they may be much greater than the "premium" (foregone direct payments, CCPs, and loan program benefits) producers must pay to participate in the program.

- For corn, soybeans, wheat, sorghum, barley, oats and sunflowers, average ACRE payments exceed the traditional program payments foregone. Thus, we would expect most producers in states where those are the dominant crops to participate in the program.

- In contrast, for cotton, rice and peanuts, average estimated ACRE payments are less than the payments producers must forego to participate in the program. Thus, we would expect few producers in states where those are the dominant crops to participate in the program.

[6] The determination of farm level losses is similar to the calculations at the state level, except farm level yields replace state yields in the calculations, there is no 0.9 factor, and producer-paid crop insurance premiums are added to the benchmark revenue.

[7] The model used to generate the 2008 FAPRI stochastic baseline did not produce results at the state level, but the impacts of ACRE depend critically on yields per planted acre at the state level. We generated stochastic estimates of state-level yields for each commodity that are correlated across states and across commodities. These were used to estimate ACRE payments for each state and each commodity for 500 possible outcomes for national average prices and yields. The national level model was then calibrated to reproduce the mean and the standard deviation of ACRE payments for each commodity.

Table 2a. Impacts of ACRE relative to implementation of other FCEA provisions

	Selected FCEA policies (exc. ACRE)	Plus ACRE provisions	Absolute difference	Percentage difference
ACRE participation rates	(Percent, 2009/10-2012/13)			
Corn and soybeans	n.a.	75	100	n.a.
Wheat, barley, oats and sunflowers	n.a.	65	100	n.a.
Sorghum	n.a.	50	100	n.a.
Upland cotton, rice and peanuts	n.a.	10	100	n.a.
Crop prices	(Dollars per bushel, 2008/09-2012/13 average)			
Corn	3.78	3.77	-0.02	-0.4%
Soybeans	9.94	9.87	-0.08	-0.8%
Wheat	5.20	5.20	0.00	0.0%
Sorghum	3.53	3.53	-0.01	-0.2%
	(Cents per pound, 2008/09-2012/13 average)			
Upland cotton	62.92	63.11	0.19	0.3%
Peanuts	22.83	22.92	0.10	0.4%
	(Dollars per hundredweight, 2008/09-2012/13 average)			
Rice	11.00	11.03	0.03	0.3%
Crop acreage	(Million acres, 2008-2012 average)			
Corn	92.53	92.71	0.18	0.2%
Soybeans	70.88	71.32	0.44	0.6%
Wheat	58.55	58.33	-0.22	-0.4%
Upland cotton	10.76	10.66	-0.11	-1.0%
Sorghum	7.11	7.08	-0.04	-0.5%
Rice	2.87	2.86	-0.01	-0.4%
Peanuts	1.32	1.31	0.00	-0.2%
12* crop total	255.80	255.98	0.18	0.1%
Meat and milk production	(Billion pounds, 2008-2012 annual average)			
Beef production	27.36	27.37	0.00	0.0%
Pork production	22.85	22.86	0.01	0.0%
Broiler production	37.21	37.25	0.04	0.1%
Milk production	196.22	196.24	0.02	0.0%
Livestock and dairy prices	(Dollars per hundredweight, 2008-2012 average)			
Steers, Nebraska direct	91.29	91.21	-0.07	-0.1%
Barrows & gilts, 51-52% lean	50.37	50.29	-0.08	-0.2%
Broilers, 12-city wholesale	74.52	74.35	-0.16	-0.2%
All milk	17.09	17.09	0.00	0.0%

*Crops shown, plus barley, oats, sunflowers, sugar beets and sugar cane.

Table 2b. Impacts of ACRE relative to implementation of other FCEA provisions, continued

	Selected FCEA policies (exc. ACRE)	Plus ACRE provisions	Absolute difference	Percentage difference
Crop year government payments	(Million dollars, 2008/09-2012/13 annual average)			
Direct payments	5,131	4,657	-474	-9.2%
Marketing loan benefits	293	256	-37	-12.7%
Countercyclical payments	394	346	-48	-12.2%
ACRE payments	0	1,651	1,651	n.a.
Sum of above	5,819	6,910	1,091	18.8%
Corn	2,067	2,504	436	21.1%
Soybeans	583	1,193	610	104.6%
Wheat	1,112	1,203	90	8.1%
Upland cotton	1,168	1,106	-63	-5.4%
Rice	470	462	-7	-1.6%
Peanuts	117	111	-6	-5.4%
Sorghum, barley and oats	281	305	24	8.6%
Minor oilseeds	21	27	6	31.0%
Fiscal year net CCC outlays	(Billion dollars)			
FY 2008 - FY 2012 annual average	10.46	10.99	0.53	5.1%
FY 2008	12.97	12.97	0.00	0.0%
FY 2009	10.38	10.20	-0.18	-1.8%
FY 2010	9.98	9.30	-0.68	-6.8%
FY 2011	10.07	11.91	1.84	18.2%
FY 2012	8.90	10.60	1.70	19.1%
FY 2008-FY 2012 total	52.31	54.97	2.67	5.1%
Farm income	(Billion dollars, 2008-2012 annual average)			
Crop receipts	165.71	165.47	-0.24	-0.1%
Livestock receipts	138.57	138.45	-0.12	-0.1%
Government payments	10.78	11.55	0.77	7.1%
Rent to non-operator landlords	13.46	13.54	0.08	0.6%
Other production expenses	267.30	267.18	-0.12	0.0%
Total production expenses	280.75	280.72	-0.03	0.0%
Other net farm income	49.65	49.68	0.03	0.1%
Net farm income	83.96	84.43	0.48	0.6%
	(Dollars per acre)			
Value of farm real estate, 1/1/2012	2,754	2,763	8.94	0.3%
	(Billion dollars, 2008-2012 annual average)			
Consumer food expenditures	863.46	863.33	-0.13	0.0%

- While our state-level analysis is still tentative, ACRE is more likely to be attractive to producers in northern states than in southern states (figure 1). In southern states, foregone traditional payments for cotton, rice and peanuts are larger than average ACRE payments.

- The rule that all cropland on a farm must be enrolled or none of it can be enrolled will be important for those who produce some crops where ACRE is attractive and some crops where ACRE is unattractive. For example, results suggest ACRE would be attractive to sorghum producers, all else equal. However, a sorghum producer in Texas who specializes in producing cotton may choose not to participate, while a sorghum producer in Kansas who specializes in wheat may want to participate.

- Average payment rates differ significantly across states. All else equal, payments will be greater in states where the variability of crop yields is greater.

- Payments will also be greater, all else equal, in states where crop yields are not inversely related to prices. In states where yields are closely correlated with national yields, yields will tend to be low when prices are high, making it less likely that revenues will drop below the benchmark revenue level.

- On a crop year basis, we estimate that average ACRE payments will exceed foregone payments from traditional programs by more than one billion dollars per year over the 2009-2012 period.

- In years when prices decline sharply from recent levels, ACRE payments may be several billion dollars. In contrast, when prices are rising, ACRE payments may be less than the traditional program payments that participating producers agree to forego.

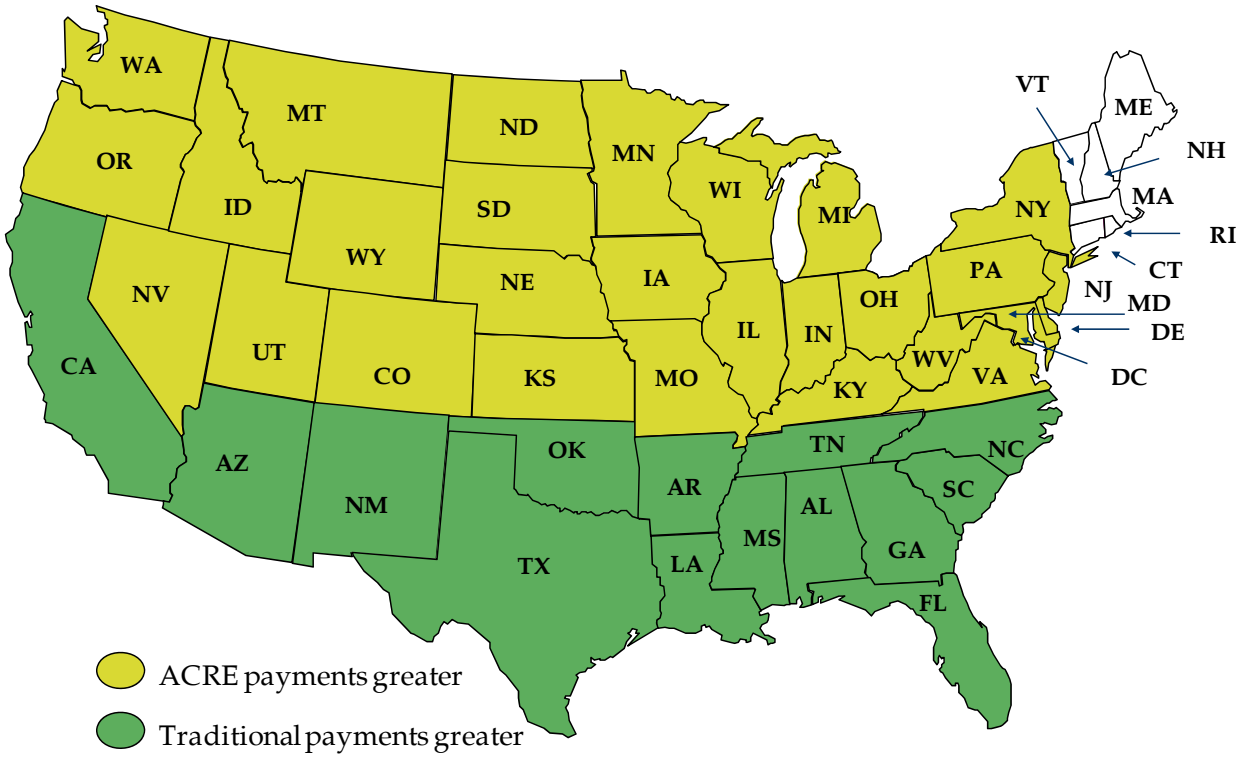
- ACRE payments are only made in October of the year after the year in which the crop is harvested. Since the program begins in 2009, that means the first payments under the program are made in October 2010, which falls in fiscal year 2011.

- The timing of ACRE payments means that ACRE payments occur in a later fiscal year than some of the payments that the ACRE program replaces. All else equal, this reduces the reported cost of the program over a particular "window" of fiscal years, such as fiscal years 2008 to 2012. It also reduces the value of the payments to producers and affects cash flow.

- Because ACRE payments are tied to planted acreage, they are expected to affect crop production decisions. Production increases for crops where expected ACRE payments are larger, and the total area devoted to production of 12 major crops increases slightly.

- ACRE payments could have important WTO consequences if they are classified as amber box support. While the dairy provisions of FCEA may reduce US amber box support subject to limitation, the ACRE payments may increase US amber box support. While the average level of ACRE payments is relatively modest, the payments could vary dramatically from one year to the next, adding billions of dollars to US amber box support in some years.

Figure 1. Comparison of average ACRE payments and traditional payments producers would forego if they participate in ACRE, 2009/10-2012/13 average over 500 stochastic outcomes for prices and yields



Note: analysis was not conducted for the New England states, Alaska and Hawaii because of data limitations.

Concluding comments

These results should be seen as partial and preliminary. The analysis does not incorporate all farm bill provisions that will affect commodity markets. Incorporating payment limitation provisions and effects of conservation, nutrition, disaster and other measures would result in different and more comprehensive estimates of FCEA impacts.

Furthermore, many of the estimates reported here are "baseline dependent." Changes in wheat and soybean target prices, for example, have little estimated impact because average projected prices are well above levels that would trigger CCPs. A baseline with lower average prices would yield much larger estimates of impacts of the FCEA increases in target prices.

When a new FAPRI baseline is prepared, it is likely to show a different level of average prices and perhaps a different pattern of price changes over time. All else equal, if average crop prices are at a higher level in a new baseline, average ACRE expenditures will be greater.[8] If average prices decline over time, payments will also be greater. If average market prices in 2007/08 and 2008/09 are much higher than in the 2008 FAPRI–MU stochastic baseline and then decline in 2009/10 and 2011/12, actual expenditures on the ACRE program could be much greater than reported here. On the other hand, if average prices rise over time, then ACRE expenditures could be smaller than indicated in this report.

[8] If the variance of crop prices is proportional to the average price level, then a higher average price would not affect the frequency of ACRE payments. However, when payments are made, they are likely to be larger. Consider two cases: in the first, the moving average price of corn is $5.00 per bushel and in the second it is $3.00 per bushel. Now suppose that prices fall 20 percent relative to those respective moving averages, while yields are equal in both cases to the Olympic average of, say, 150 bushels per acre. When the average price level is $5.00, a 20 percent decline in corn prices results in an ACRE payment of $75 per eligible acre ($5.00*150*0.9 - $4.00*150), while a 20 percent decline from a $3.00 average price results in an ACRE payment of $45 per eligible acre ($3.00*150*0.9 - $2.40*150).