

Food and Agricultural
Policy Research Institute



October 2013

Impacts of Selected Provisions of the House and Senate Farm Bills

FAPRI-MU Report #06-13

Providing objective analysis for more than 25 years
www.fapri.missouri.edu

Published by the Food and Agricultural Policy Research Institute (FAPRI) at the University of Missouri (MU), 101 Park DeVille Drive, Suite E; Columbia, MO 65203. FAPRI–MU is part of the College of Agriculture, Food and Natural Resources (CAFNR).

<http://www.fapri.missouri.edu>

This material is based upon work supported by the U.S. Department of Agriculture, under Agreement No. 58-0111-12-003.

Any opinion, findings, conclusions, or recommendations expressed in this publication are those of the authors and do not necessarily reflect the view of the U.S. Department of Agriculture nor the University of Missouri.

Contact authors for this report are Pat Westhoff (westhoffp@missouri.edu) and Scott Gerlt (gerlts@missouri.edu).

Permission is granted to reproduce this information with appropriate attribution to the author(s) and FAPRI–MU.

The University of Missouri–Columbia does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation, age, disability or status as a qualified protected veteran. For more information, call Human Resource Services at 573-882-4256 or the US Department of Education, Office of Civil Rights.

Table of contents

Summary results	2
Introduction	4
Policies examined	5
Program implementation and participation	12
Area and price impacts	14
Crop returns	16
Base acreage vs. planted acreage	19
Government budgetary outlays	20
Farm income and consumer food expenditure	22
Variability in program costs and benefits	24
Conservation Reserve Program caps	26
WTO concerns	28
Renewable Fuel Standard (RFS) impacts	29
Final comments	30

Summary

The U.S. Senate approved the “Agriculture Reform, Food and Jobs Act of 2013” on June 10, 2013, and the U.S. House approved the “Federal Agriculture Reform and Risk Management Act of 2013” on July 11, 2013. This report examines the possible consequences of several key provisions in the two bills.

- 1) The elimination of the current Direct and Countercyclical Payment (DCP) and Average Crop Revenue Election (ACRE) programs, a common feature of both bills.
- 2) The establishment of Adverse Market Payments (AMPs), the Agriculture Risk Coverage (ARC) program, the Stacked Income Protection Plan (STAX) and the Supplemental Coverage Option (SCO) in the Senate bill.
- 3) The establishment of Price Loss Coverage (PLC), Revenue Loss Coverage (RLC) programs and STAX, as well as a slightly different version of SCO, in the House bill.

Models maintained by the Food and Agricultural Policy Research Institute at the University of Missouri (FAPRI-MU) are used to estimate possible impacts of these proposed policy changes. Results are presented relative to a baseline prepared in early 2013 that assumes a continuation of existing farm policies. The analysis uses a stochastic approach that considers 500 possible future outcomes for agricultural commodity markets to examine the consequences of continued market volatility.

The two bills have much in common and the consequences of the two bills would be similar in many respects. Both bills replace a Direct Payment program that makes payments that are not tied to current prices or production levels with new programs that offer support linked to current levels of production and prices. Average levels of federal farm program spending would be reduced under both bills, and most commodity market impacts would be relatively small. Some key results are summarized in Table 1.

- The program changes examined in this report reduce estimated 10-year net budgetary outlays by \$18.1 billion under the Senate bill and \$12.6 billion under the House bill. Estimates of the net budget savings of the same provisions by the Congressional Budget Office (CBO) are \$16.4 billion for the Senate bill and \$15.9 billion for the House Committee bill.
- SCO accounts for much of the difference in the estimated costs of the two bills, as the Title I provisions are estimated to have very similar net budgetary impacts.
- The House and Senate bills provide different projected levels of support to producers of particular commodities. For example, the House bill provides more support than the Senate bill to rice, barley and peanuts, while the Senate bill provides more support than the House bill to corn and soybeans. Area and production estimates reflect these differences in projected benefits.
- Program benefits will be very sensitive to market conditions and producer participation decisions, as the various programs provide protection against different types of financial risk.
- Under each bill, average net farm income would decline slightly relative to what would happen under a simple continuation of current farm programs. Impacts on consumer food prices would be very small.

Other provisions of the bills, such as changes in dairy and nutrition programs, are not examined in this report. The Conservation Reserve Program, the Renewable Fuel Standard and World Trade Organization concerns are discussed in separate sections at the end of the report.

Table 1. Key results, Baseline and average change from Baseline, 2014-2018, except as noted

	Baseline	House PLC/RLC/ STAX/SCO	Senate AMP/ARC/ STAX/SCO
<u>Program changes examined</u>	n.a.	Elimination of DCP & ACRE; creation of RLC, PLC, SCO & STAX	Elimination of DCP & ACRE; creation of ARC, AMP, SCO & STAX
<u>Crop area planted (mil. a., Table 7)</u>			
Corn	91.54	0.1%	0.3%
Soybeans	77.15	-0.2%	0.0%
Wheat	54.34	0.1%	-0.2%
Upland cotton	9.95	1.3%	1.5%
Sorghum	6.74	-0.6%	-0.6%
Rice	2.85	2.3%	-1.2%
Barley	3.19	5.7%	-0.6%
Peanuts	1.40	3.7%	-0.2%
12 major crops	254.26	0.1%	0.0%
<u>Crop prices (Table 8)</u>			
Corn (\$/bu.)	4.78	-0.5%	-0.7%
Soybeans (\$/bu.)	11.33	0.1%	-0.2%
Wheat (\$/bu.)	6.11	-0.4%	-0.2%
Upland cotton (cents/lb.)	68.81	-0.9%	-1.0%
Sorghum (\$/bu.)	4.61	-0.2%	-0.4%
Rice (\$/cwt)	14.01	-2.1%	0.9%
Barley (\$/bu.)	4.47	-4.9%	-0.2%
Peanuts (cents/lb.)	25.23	-7.8%	0.4%
<u>AMP/ARC/RLC/PLC payments plus change in crop insurance net indemnities (\$/acre, Table 9)*</u>			
Corn	n.a.	\$21.96	\$24.56
Soybeans	n.a.	\$10.50	\$11.77
Wheat	n.a.	\$12.09	\$9.64
Upland cotton	n.a.	\$27.13	\$27.09
Sorghum	n.a.	\$9.45	\$8.47
Rice	n.a.	\$82.11	\$40.13
Barley	n.a.	\$48.72	\$9.88
Peanuts	n.a.	\$119.25	\$70.40
<u>Federal farm program outlays (Table 11)</u> (billion dollars, FY 2014-2023 total)	178.09	-\$12.61	-\$18.12
<u>Net farm income (billion dollars, Table 12)</u>	108.10	-1.7%	-1.9%
<u>Consumer food expenditures (bil. dollars, Table 13)</u>	1,434.46	0.0%	0.0%

*Dollars per planted acre for ARC, PLC and RLC payments and SCO and STAX net indemnities; dollars per base acre for AMP. Base acreage and planted acreage for particular crops can be very different on any given farm and for the country as a whole. See Table 9 for detail on per-acre payments by program.

Introduction

The “Agriculture Reform, Food and Jobs Act of 2013” was approved by the U.S. Senate on June 10, 2013, and the “Federal Agriculture Reform and Risk Management Act of 2013” was approved by the U.S. House on July 11, 2013. In response to a request from staff of the Senate Committee on Agriculture, Nutrition and Forestry, this report examines the possible impacts of several key provisions in the two bills that are likely to have important consequences for U.S. crop producers.

- 1) The elimination of the current Direct and Countercyclical Payment (DCP) and Average Crop Revenue Election (ACRE) programs, a common feature of both bills.
- 2) The establishment of Adverse Market Payments (AMPs), the Agriculture Risk Coverage (ARC) program, the Stacked Income Protection Plan (STAX) and the Supplemental Coverage Option (SCO) in the Senate bill.
- 3) The establishment of Price Loss Coverage (PLC), Revenue Loss Coverage (RLC) programs and STAX, as well as a slightly different version of SCO, in the House bill.

The bills include a wide range of other provisions beyond the scope of this report. Changes in dairy and conservation programs and revisions in rules for the Supplemental Nutrition Assistance Program (SNAP), for example, could have important impacts, but they are not considered in this analysis. A section at the end of the report does discuss impacts of proposed limits on Conservation Reserve Program enrollment, but those effects are not included in the analysis presented in the remainder of the report.

The analysis considers a baseline and two alternative scenarios.

- 1) The **Baseline** assumes a continuation of current U.S. farm programs, including an indefinite extension of the DCP and ACRE programs.
- 2) The **Senate AMP/ARC/STAX/SCO** scenario assumes the elimination of the DCP and ACRE programs and the creation of AMP, ARC, STAX, and SCO, all effective with the 2014 crop year.
- 3) The **House PLC/RLC/STAX/SCO** scenario assumes the elimination of the DCP and ACRE programs and the creation of PLC, RLC, STAX and SCO, also all effective with the 2014 crop year. Upland cotton continues to receive reduced Direct Payments in crop years 2014 and 2015.

The analysis is conducted using economic models developed by the Food and Agricultural Policy Research Institute at the University of Missouri (FAPRI-MU). The FAPRI-MU models cover major U.S. crop and livestock commodity markets and also generate estimates of farm income, budgetary outlays, consumer food expenditures and other indicators. The models include explicit representations of a wide range of existing government programs, and new equations were added to the models to examine the new AMP, ARC, RLC, PLC, STAX and SCO programs.

The point of departure for the analysis is the set of 10-year stochastic Baseline projections for the U.S. agricultural economy developed in early 2013. The Baseline assumes a continuation of 2008 farm bill provisions, generally following the same policy assumptions that guide baseline development by the Congressional Budget Office (CBO). The stochastic Baseline is a set of 500 projections that share a common set of policy assumptions, but that utilize different assumptions about the weather, energy markets and some of the other factors that make agricultural markets uncertain and volatile. This report generally uses averages from these 500 alternative outcomes, but the approach makes it possible to examine policy impacts under a wide range of circumstances.

The Baseline was prepared in early 2013 reflecting information available at that time, and thus does not reflect changes in market conditions that have occurred because of recent developments.

Policies examined

Policy assumptions of the three scenarios are summarized in Table 2 at the end of this section.

The bills both eliminate the **DCP and ACRE** programs. The Direct Payment (DP) program makes fixed annual payments to producers. These payments are tied to base acreage and program yields determined by production on a farm in the distant past, and generally are unaffected by current planting decisions or production levels. DPs total about \$5 billion per year, and under the Senate bill, producers would receive their last checks under the program in October 2013. Under the House bill producers with upland cotton base acreage would receive direct payments for an additional two years, on 70 percent of their cotton base in 2014 and 60 percent in 2015. Cotton producers are not eligible for the new Title I programs created by either of the bills.

Countercyclical Payments (CCPs) are made to participating producers when season-average farm prices fall below a trigger level determined by legislated target prices and DP rates. In recent years, market prices for most grains and oilseeds have been above levels that would result in CCPs, although payments can occur when prices are low.

The ACRE program was created in the 2008 farm bill as an alternative to CCPs. Participating producers get a payment when state and farm-level revenues for a particular crop fall below triggers determined by past prices and yields. Participation in this voluntary program has been limited, so actual and projected spending on the program has been far less than on the direct payment program. Under the Senate and House bills, CCP and ACRE payments would be available on crops harvested in 2013, but not on crops harvested in subsequent years.

The proposed Senate **AMP** program operates similarly to the current CCP program, but has some important distinctive features.

- The program is available to grain and oilseed producers, but not to producers of upland cotton.
- The reference price is 55 percent of the 5-year Olympic average U.S. farm price, except rice by type and peanuts which have fixed reference prices of \$13.30 per cwt and \$523.77 per ton, respectively.
- AMP payment yields are the same as CCP yields, except rice producers can update using an adjustment based on the 2009 through 2012 yield per planted acre. If peanut producers choose to update base acres, they must also update the payment yields to the average of the 2009 to 2012 yield per planted acre. For both of the two commodities that can update yields, if any of the farm yields are below 75 percent of the 2009 through 2012 average county yield, 75 percent of the average county yield may be substituted for those farm yields.
- The program pays on 85 percent of base acres. Peanuts producers have the one-time option to update base acres.

- Payments can only be made after October 1 of the year after the crop is harvested. Thus, payments on the 2014 crop would not be available until October 2015, similar to the timing of CCPs and ACRE payments under current law.

The proposed Senate **ARC** program would make payments when per-acre revenues for a particular crop fall below a trigger level. While the program has some features in common with ACRE, the program also has many distinct provisions:

- The program is available to grain and oilseed producers, but not to producers of upland cotton.
- Producers must choose between two options. One would make payments based on calculations that use county-level yields and the other would use farm-level yields. Those who choose the county-based option can receive payments on 80 percent of planted acres, while those who choose the farm-based option can receive payments on 65 percent of planted acres. Under either option, 45 percent of prevented planted acres are eligible for payment.
- Total planted acres on a farm used to calculate ARC benefits generally cannot exceed actual average plantings and acres considered planted between 2009 and 2012.
- A benchmark level of revenue is determined by multiplying a 5-year Olympic average of U.S. season-average market prices (the average after excluding the year with the highest price and the year with the lowest price) by a 5-year Olympic average of yields per planted acre. Unlike ACRE, there is no restriction on the magnitude of annual movements in the benchmark.
- Payments are made when actual revenues (yields per planted acre multiplied by the higher of the U.S. average market price or the reference price) fall at least 12 percent below the benchmark.
- The maximum payment is equal to 10 percent of the benchmark. Thus, the program covers losses of between 12 percent and 22 percent of the benchmark.
- Payments can only be made after October 1 of the year after the crop is harvested, similar to AMP.
- There is a \$50,000 limit on the sum of AMP and ARC payments to a producer, except a peanut producer can receive up to \$50,000 in AMP plus ARC payments for peanuts and up to \$50,000 in payments for other crops. AMP and ARC benefits are not available to producers with an adjusted gross income (AGI) of more than \$750,000. These payment restrictions are *not* considered in the quantitative analysis which follows.

In the House Committee bill, producers can choose to enroll particular crops in the **RLC** program, which is similar in many respects to the Senate ARC program.

- As with ARC, RLC is available to grain and oilseed producers, but not to producers of upland cotton.
- RLC is similar to the county-based option under ARC, except payments are available on up to 85 percent of planted acres and 30 percent of prevented planted acres, and producers can

make participation choices on a crop-by-crop basis. Total payment acres on a farm generally cannot exceed the sum of historical base acreage on the farm.

- Benchmark calculations under RLC are generally the same as under ARC, except all commodities have a floor under the annual prices that are used in calculating the Olympic average price.
- Payments are made when actual revenues fall at least 15 percent below the benchmark.
- The maximum payment is equal to 10 percent of the benchmark. Thus the program covers losses of between 15 percent and 25 percent of the benchmark.
- Like ARC, payments can only be made after October 1 of the year after the crop is harvested.
- The payment limitation in the House Committee bill is \$50,000 for RLC and PLC. The AGI limit is \$950,000. These payment restrictions are *not* considered in the quantitative analysis which follows.

In the House Committee bill, **PLC** is the default option for grain and oilseed producers. The program has some features in common with the current CCP program, but differs in important respects.

- Like CCPs, PLC payments occur when market prices fall below a trigger level, and payments depend on fixed program yields instead of actual harvested yields in a given year.
- Unlike CCPs, PLC payments are made on 85 percent of planted acreage and 30 percent of prevented planted area rather than on fixed base acreage. As with RLCs, total payment acreage is limited to historical base acreage on a farm.
- PLC reference prices are higher than the target prices used in calculating CCPs, and PLC calculations use the five-month market price, which is normally less than the season-average price used in CCP calculations.
- Producers are given the option of updating payment yields to 90 percent of the 2008-2012 average yield per planted acre. If any of the yields are below 75 percent of the 2008 through 2012 average county yield, 75 percent of the average county yield may be substituted for those farm yields.
- Like the other payments, PLC payments can only be made after October 1 of the year after the crop is harvested. Payment limitation and AGI rules are also the same as for RLC, and also are *not* considered in the quantitative analysis which follows.

The **SCO** program is an area-based crop insurance product that a producer can purchase in addition to a traditional policy with individual coverage. SCO provisions differ between the House Committee and Senate bills.

- In both bills, SCO coverage is based upon the county benchmark and revenues, similar to Group Risk Insurance Protection (GRIP) plans. The program covers losses between the SCO deductible and the individual insurance policy coverage level multiplied by the expected county revenue.

- In the Senate bill, SCO is not available to producers enrolled in STAX. In the House bill, SCO is not available for acreage enrolled in STAX or RLC.
- In the Senate bill, SCO policies must have at least a 22 percent deductible if the producer is enrolled in ARC, and at least a 10 percent deductible in the case of a producer not enrolled in ARC.
- In the House Committee bill, SCO policies must have at least a 10 percent deductible for a producer enrolled in PLC.
- Federal subsidies cover 65 percent of the SCO premium under both bills.

The **STAX** program has some features in common with SCO but also has distinct provisions.

- The program is available only to producers of upland cotton.
- STAX is offered as a crop insurance product. Producers pay a premium and receive indemnities when a calculation of county revenues falls below a trigger level determined by historical yields and futures market prices. Federal subsidies cover 80 percent of the STAX premium.
- STAX can be used to cover revenue losses between 10 percent and 30 percent of expected county revenue. Producers would be expected to continue to use conventional crop insurance policies to protect against other losses.
- The STAX payment rate multiplier of between 80 and 120 percent is selected by the producer, similar to the Group Risk Income Protection crop insurance program.

Both the House and Senate bills continue the current **Marketing Loan Program**, with loan rates and other provisions that generally follow current law. One important exception is upland cotton, where the loan rate under the House bill is set at the two-year average of the Adjusted World Price (AWP), but in no case above 52 cents per pound or less than 47 cents per pound. Under the Senate bill, the two-year average price is bounded between 45 cents per pound and 52 cents per pound. Both bills have a payment limit of \$75,000 for marketing loan gains and loan deficiency payments. Peanuts have a separate \$75,000 limit under the Marketing Loan Program in the Senate bill. These restrictions on marketing loan benefits are *not* considered in the quantitative analysis which follows.

Table 2a. Policies in the Baseline and under the House and Senate bills

	Baseline	House PLC/RLC/ STAX/SCO	Senate AMP/ARC/ STAX/SCO
DCP/ACRE payments available?	Yes	Not after 2013, except upland cotton which has reduced Direct Payments in 2014 and 2015	Not after 2013
ARC/AMP/PLC/RLC/STAX/SCO available?	No	Yes from 2014	Yes from 2014
<u>ARC or RLC provisions</u>			
Eligibility	n.a.	Alternative to PLC; not available for upland cotton	Program crops other than upland cotton
Benchmark revenue basic rule	n.a.	5-year Olympic avg. yield times 5-year Olympic avg. U.S. price	5-year Olympic avg. yield times 5-year Olympic avg. U.S. price
"Plugs" to replace low prices in benchmark calculations	n.a.	All crops (same as PLC reference)	n.a.
Current revenue	n.a.	Yield times 5-month U.S. price	Yield times greater of 12-month U.S. price or AMP reference price
Yield data used to compute benchmark and current revenue	n.a.	County only	One-time choice: county or individual
Loss triggering payments	n.a.	15%	12%
Maximum payment as share of benchmark revenue	n.a.	10%	10%
Payment acres			
Individual: share of planted	n.a.	n.a.	65%
County: share of planted	n.a.	85%	80%
Share of prevented planted acreage	n.a.	30%	45%
Additional cap on total payment acres	n.a.	Total base acres on the farm	65% or 80% of 2009-2012 total planted+prevented
Payments made no sooner than:	n.a.	October of year after harvest	October of year after harvest
AMP+ARC/PLC+RLC total payment limitations	n.a.	\$50,000	\$50,000 (peanuts separate)
Adjusted Gross Income (AGI) limitation	n.a.	\$950,000	\$750,000

Table 2b. Policies in the Baseline and under the House and Senate bills, continued

	Baseline	House PLC/RLC/ STAX/SCO	Senate AMP/ARC/ STAX/SCO
<u>AMP or PLC provisions</u>			
Eligibility	n.a.	Default for program crops except up. cotton (RLC is alternative)	Program crops other than upland cotton
Reference prices			
Corn per bushel	n.a.	\$3.70	55% of 5-year Olympic avg.
Soybeans per bushel	n.a.	\$8.40	U.S. price
Wheat per bushel	n.a.	\$5.50	"
Sorghum per bushel	n.a.	\$3.95	"
Barley per bushel	n.a.	\$4.95	"
Rice (by type) per hundredweight	n.a.	\$14.00	\$13.30
Peanuts per ton	n.a.	\$535.00	\$523.77
Price used to calculate payments	n.a.	U.S. 5-month price	U.S. 12-month price
Payment yields	n.a.	Can update CCP yields to 90% of 2008-2012 avg. yield per planted	Same as CCP yields except rice and peanuts, which can update under specific rules using 2009-2012 yield per planted
Payment acres, payment timing, payment limitation, AGI limitation	n.a.	Same as for RLC	85% of base acres, peanuts have one-time adjustment option. Otherwise, same as ARC.
<u>SCO provisions</u>			
Eligibility	n.a.	Program crop producers (cannot get SCO with RLC or STAX)	Program crop producers (cannot get both SCO and STAX)
Basis of coverage	n.a.	County	Area (assumed county)
Portion of individual deductible not covered by policy	n.a.	10% for PLC participants; not available to RLC participants	22% for ARC participants; 10% for ARC nonparticipants;
Lower level of coverage	n.a.	Individual insurance coverage level	Individual insurance coverage level
Premium subsidy	n.a.	65%	65%

Table 2c. Policies in the Baseline and under the House and Senate bills, continued

	Baseline	House PLC/RLC/ STAX/SCO	Senate AMP/ARC/ STAX/SCO
<u>STAX provisions</u>			
Eligibility	n.a.	Upland cotton only	Upland cotton only
Expected county revenue normal rule	n.a.	Like GRIP+HROE (normally based on futures prices and trend yields)	Like GRIP+HROE (normally based on futures prices and trend yields)
Loss triggering payment	n.a.	10%	10%
Maximum payment as share of expected county revenue	n.a.	20%	20%
Premium subsidy	n.a.	80%	80%
Payment rate multiplier	n.a.	80%-120%	80%-120%
<u>Marketing loan provisions</u>			
Loan rates			
Corn per bushel	\$1.95	\$1.95	\$1.95
Soybeans per bushel	\$5.00	\$5.00	\$5.00
Wheat per bushel	\$2.94	\$2.94	\$2.94
Sorghum per bushel	\$1.95	\$1.95	\$1.95
Barley per bushel	\$1.95	\$1.95	\$1.95
Rice (by type) per hundredweight	\$6.50	\$6.50	\$6.50
Peanuts per ton	\$355.00	\$355.00	\$355.00
Upland cotton per pound	\$0.52	2-yr. avg of AWP, but between \$0.47 and \$0.52	2-yr. avg of AWP, but between \$0.45 and \$0.52
Marketing loan gain and loan deficiency payment limitations	n.a.	\$75,000	\$75,000 (peanuts separate)

Program implementation and participation

To estimate the fiscal and market impacts of the farm bill proposals requires a series of assumptions about program implementation and producer participation. For example, this analysis assumes that all of the new programs will be implemented for crops harvested in 2014, even though it may be difficult to do so, especially if it is some time before a final bill is completed.

In the **Senate** bill, producers must choose whether to participate in the county or individual version of ARC, or whether to forgo ARC participation entirely in order to be able to obtain the version of SCO with a 10 percent deductible. A comparison of expected payments suggests that the county-based ARC would provide greater payments to the average producer, but many producers may choose the individual-based version of ARC to better insure against farm-specific risks. ARC and SCO with a 10 percent deductible provide similar levels of expected net benefits for most crops, but many are likely to choose ARC over SCO to avoid paying the required SCO premium (Table 3). ARC would also provide some protection against a sustained drop in prices not available from SCO. On the other hand, SCO is a crop insurance program and is not subject to the same payment limitation rules as ARC. Rice and peanut producers may have more reasons to choose SCO over ARC than other producers, given estimated benefit levels.

This analysis assumes that for crops other than peanuts and rice, 90 percent of producers (to be more precise, producers representing 90 percent of production) enroll in ARC, half in the county-based version and half in the individual version (Table 4). The remaining 10 percent of producers opt for SCO with the 10 percent deductible. Of those who enroll in ARC, half also purchase the available SCO coverage with a 22 percent deductible. For peanuts and rice, it is assumed that 50 percent of production is enrolled in ARC, split between the county and farm option. Fifty percent of production is enrolled in SCO at the 10 percent deductible and 25 percent at the 22 percent deductible. Finally, it is assumed that 95 percent of upland cotton producers enroll in STAX. Given a lack of options, only a few would choose not to participate in STAX to avoid paying the required premium.

Under the **House** bill, producers must decide for each crop whether to remain with the default option of PLC or to participate in RLC. In addition, PLC participants can also choose to participate in SCO (SCO is not available on acres enrolled in RLC or STAX). For corn and soybeans, expected RLC payments exceed expected PLC payments (Table 5). However, PLC provides greater protection against a sharp long-term decline in crop prices. Perhaps more importantly, PLC participants can also benefit from SCO, and combined PLC and SCO benefits exceed expected RLC benefits for corn and soybean producers. For most other crops, expected PLC payments exceed expected RLC payments, even before considering SCO effects. Considering these and other factors, the analysis assumes that 60 percent of corn and soybean producers opt for PLC, with higher PLC participation for other crops, up to 99 percent for peanuts and rice (Table 6).

A simple comparison of benefits suggests that almost all PLC participants would benefit from purchasing SCO, given the 65 percent premium subsidy. Experience with other crop insurance products, however, suggests many producers will choose to reduce out-of-pocket costs by purchasing lower levels of coverage than would maximize net indemnities (indemnities minus producer-paid premiums) in the long run. This analysis assumes that half of PLC participants purchase SCO.

Under both bills, budgetary impacts and other effects are very sensitive to producer participation decisions. For example, SCO fiscal costs could easily be billions of dollars greater or smaller over the next ten years, depending on participation levels.

Table 3. Program benefits in the Senate bill, 2014-2018 average, dollars per acre for producers participating in particular programs

	AMP payments	ARC payments	SCO net indem.		(AMP+ARC+ SCO for ARC part.)	(AMP+SCO for non-ARC participants)	STAX change in net indem.
			ARC participants	ARC non-participants			
Corn	0.72	23.21	3.61	18.20	27.55	18.92	n.a.
Soybeans	0.39	10.68	1.86	11.30	12.93	11.69	n.a.
Wheat	0.16	8.52	2.51	9.46	11.19	9.62	n.a.
Upland cotton	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	28.51
Sorghum	0.26	7.98	1.33	6.80	9.57	7.06	n.a.
Barley	0.13	9.37	1.45	7.88	10.96	8.01	n.a.
Rice	31.58	2.18	2.53	13.72	36.29	45.31	n.a.
Peanuts	59.80	3.45	2.52	16.48	65.77	76.28	n.a.

Table 4. Senate bill: assumed program participation rates, share of total production

	County ARC	Individual ARC	SCO w/ 10% deductible	SCO w/ 22% deductible	STAX
Rice	25%	25%	50%	25%	n.a.
Peanuts	25%	25%	50%	25%	n.a.
Other grains and oilseeds	45%	45%	10%	45%	n.a.
Upland cotton	n.a.	n.a.	0%	0%	95%

Table 5. Program benefits in the House Committee bill, 2014-2018 average, dollars per acre for producers participating in particular programs

	RLC payments	PLC payments	SCO net indem.	(Sum of PLC and SCO)	STAX change in net indem.
Corn	27.33	10.00	18.20	28.19	n.a.
Soybeans	11.50	4.43	11.30	15.73	n.a.
Wheat	8.36	8.68	9.46	18.14	n.a.
Upland cotton	n.a.	n.a.	n.a.	n.a.	28.55
Sorghum	8.11	6.98	6.80	13.78	n.a.
Barley	14.46	49.37	7.88	57.25	n.a.
Rice	13.98	76.41	13.72	90.13	n.a.
Peanuts	23.62	111.98	16.48	128.46	n.a.

Table 6. House Committee bill: assumed program participation rates, share of total production

	RLC	PLC	SCO	STAX
Corn	40%	60%	30%	n.a.
Soybeans	40%	60%	30%	n.a.
Wheat	20%	80%	40%	n.a.
Upland cotton	n.a.	n.a.	n.a.	95%
Sorghum	30%	70%	35%	n.a.
Barley	10%	90%	45%	n.a.
Rice	1%	99%	50%	n.a.
Peanuts	1%	99%	50%	n.a.

Area and price impacts

The two bills generally have only small average net impacts on the area used to produce major crops (Table 7).

All else equal, eliminating the DCP and ACRE programs reduces producer income and results in a modest reduction in the area planted to major crops. In the **Senate** bill, this effect is offset by the effects of the new AMP, ARC, STAX and SCO provisions. With the exception of AMP, these new programs only provide benefits to producers who attempt to grow particular crops, so one dollar of benefits under ARC, STAX and SCO has a larger effect on production decisions than does a dollar of DCP payments, which are not tied to current production levels. Even though net spending on AMP, ARC, STAX and SCO is less than the DCP and ACRE program payments they replace, total planted acreage is marginally greater under the Senate bill than in the Baseline.

Because the Senate bill distributes program benefits differently than under current law, the bill does not affect production of each commodity in the same way. Corn and upland cotton acreage expands at the expense of other crops. Average ARC, SCO and STAX benefits per acre are greater for corn and cotton than for other crops, as discussed in the next section. While rice and peanuts have higher total payments per acre than other crops, most of their support is delivered through AMP. Because AMP benefits are tied to base acreage rather than planted acreage, we assume a dollar of AMP benefits would have a smaller impact on production decisions than would a dollar of benefits provided under ARC, SCO and STAX. The net effect of eliminating DCPs and instituting the new Senate programs is a slight reduction in rice acreage and production relative to the Baseline.

The increase in acreage and production translates into slightly lower prices for corn and upland cotton (Table 8). Because of cross-commodity effects, this is also true for soybeans, wheat and sorghum, even though they experience a slight reduction in production. For rice, production declines, and cross-commodity effects are weak enough that prices increase slightly under the Senate bill relative to the Baseline.

In the **House** bill, average projected program benefits for several crops exceed those in the Senate bill, and the total acreage devoted to production of grains, oilseeds and upland cotton also is slightly larger. The distribution of payments across commodities is different than under the Senate bill, so it should not be surprising that acreage shifts are also different. Relative to the Senate bill, estimated payments and acreage are greater for wheat, barley, rice and peanuts. Corn and soybean acreage is greater under the Senate bill, although corn acreage slightly exceeds Baseline levels under both bills.

The estimated changes in acreage and production under the House Committee bill result in corresponding changes in average market prices. Barley, rice and peanut prices all decline from Baseline levels in response to increased production. For corn, soybeans and wheat, average prices are within 1 percent of Baseline levels, but average peanut prices are 8 percent lower.

Under both bills, the average estimated impacts on production and prices are generally small relative to normal annual variation caused by other factors. However, these estimated average impacts mask the fact that there will also be circumstances where the policies can have larger effects. A subsequent report will examine issues related to supply response under the two bills in greater detail.

Table 7. Planted area, million acres, 2014-2018 average

	Baseline	House		Senate		
		Level	Change vs. Baseline	Level	Change vs. Baseline	Change vs. House
Corn	91.54	91.67	0.13	91.77	0.23	0.10
Soybeans	77.15	77.03	-0.12	77.12	-0.03	0.08
Wheat	54.34	54.38	0.05	54.24	-0.09	-0.14
Upland cotton	9.95	10.08	0.13	10.09	0.15	0.01
Sorghum	6.74	6.69	-0.04	6.70	-0.04	0.00
Rice	2.85	2.92	0.07	2.82	-0.03	-0.10
Oats	2.86	2.80	-0.06	2.81	-0.05	0.01
Barley	3.19	3.37	0.18	3.17	-0.02	-0.20
Sunflower seed	2.15	2.13	-0.02	2.13	-0.01	0.01
Peanuts	1.40	1.45	0.05	1.40	0.00	-0.05
Sugar beets	1.21	1.21	0.00	1.21	0.00	0.00
Sugarcane	0.88	0.88	0.00	0.88	0.00	0.00
12 major crops	254.26	254.62	0.36	254.34	0.09	-0.28

Table 8. Crop farm prices, 2014-2018 average

	Baseline	House		Senate		
		Level	Change vs. Baseline	Level	Change vs. Baseline	Change vs. House
Corn (dollars per bushel)	4.78	4.76	-0.02	4.75	-0.03	-0.01
Soybeans (dollars per bushel)	11.33	11.34	0.01	11.31	-0.02	-0.03
Wheat (dollars per bushel)	6.11	6.09	-0.02	6.10	-0.01	0.01
Upland cotton (cents per pound)	68.81	68.19	-0.61	68.13	-0.67	-0.06
Sorghum (dollars per bushel)	4.61	4.59	-0.01	4.59	-0.02	-0.01
Rice (dollars per hundredweight)	14.01	13.71	-0.30	14.14	0.13	0.42
Oats (dollars per bushel)	2.99	3.00	0.00	2.99	0.00	0.00
Barley (dollars per bushel)	4.47	4.25	-0.22	4.46	-0.01	0.21
Sunflower seed (cents per lb.)	24.12	24.17	0.04	24.13	0.00	-0.04
Peanuts (cents per pound)	25.23	23.26	-1.97	25.32	0.09	2.06

Crop returns

In the Baseline, the mix of government programs that support producer income differs greatly across crops (Table 9). DCP payments per base acre are far greater for rice than for soybeans, for example, while crop insurance net indemnities are a much smaller share of producer income for rice producers than for producers of many other crops. Other policies that do not involve direct subsidies to producers also can have important impacts on producer income. Biofuel policies, for example, support prices of corn, soybeans and other crops.

Eliminating DCP and ACRE payments, therefore, has a larger proportional impact on producers of some crops than on others. At one extreme, producers would lose \$11 per base acre in soybean DCP payments and \$3 per soybean planted acre in ACRE payments. At the other extreme, producers would lose \$96 per base acre in rice DCP payments. In absolute terms, corn payments per planted or base acre would decline more than the corresponding wheat payments, but the greater market value of corn production per acre means that the proportional effect on producer income of losing DCP and ACRE payments would be greater for most wheat producers than for most corn producers.

In the **Senate** bill, the AMP, ARC, SCO and STAX programs replace some of the income producers lose because of the elimination of DCP and ACRE programs. For a producer with one base acre for each planted acre, these programs provide average benefits of about \$25 per acre for corn, \$12 per acre for soybeans, \$10 per acre for wheat, \$27 for upland cotton, \$40 per acre for rice and \$70 per acre for peanuts.

As described in the previous section, these policy changes result in changes in crop production and prices that also have an effect on producer income. For example, modest reductions in market prices reduce the per-acre market value of production by about \$5 for corn and \$6 for upland cotton. In contrast, higher prices increase the market value of production by about \$10 for rice and \$4 for peanuts, offsetting a small portion of the reduction in government payments relative to the Baseline.

In the **House** bill, the combination of PLC, RLC, SCO and STAX provide similar levels of average support to producers of corn, soybeans, wheat, sorghum and cotton relative to that provided by the Senate bill. In contrast, average producer program benefits are far greater under the House Committee bill for rice, barley and peanuts. These programs provide an average of about \$22 per acre for corn, \$10 per acre for soybeans, \$12 per acre for wheat, \$27 per acre for upland cotton \$82 per acre for rice and \$119 per acre for peanuts. For most crops, prices are lower under the House Committee bill than under the Senate bill, so the market value of production per acre is also lower.

The reported payments and net indemnities represent an average of results across 500 different market outcomes and five marketing years. For any given producer, there will be no direct benefits received from these programs in some years, but benefits could be very large when prices or yields decline. The reported results are also an average across all production, weighted by assumed participation rates in the various program options. Participants in any given program may have very different results than suggested by these averages.

Note that other changes that are included in the bill but that are beyond the scope of this report would also affect producer returns and payments. For example, other changes in the crop insurance program, reductions in the CRP acreage cap and the proposed changes in the SNAP program would all have at least some impact on commodity market prices and producer returns.

Table 9a. Crop returns*, dollars per acre, 2014-2018 average

	Baseline	House		Senate		
		Level	Change vs. Baseline	Level	Change vs. Baseline	Change vs. House
Corn						
Market sales/acre	797.30	793.31	-3.99	791.86	-5.44	-1.45
Marketing loans/acre	0.00	0.00	0.00	0.00	0.00	0.00
ACRE/acre	4.22	0.00	-4.22	0.00	-4.22	0.00
Sen. ARC or House RLC/acre	0.00	10.93	10.93	20.89	20.89	9.96
PLC/acre	0.00	6.00	6.00	0.00	0.00	-6.00
Insurance net indemnities/acre	26.50	31.53	5.03	29.44	2.94	-2.09
Sum of above/acre	828.02	841.77	13.75	842.19	14.17	0.42
Direct payments/base acre	23.38	0.00	-23.38	0.00	-23.38	0.00
CCPs or AMPs/base acre	0.00	0.00	0.00	0.72	0.72	0.72
(DPs + CCPs or AMP)/base a.	23.38	0.00	-23.38	0.72	-22.66	0.72
Soybeans						
Market sales/acre	507.10	507.71	0.62	506.40	-0.70	-1.32
Marketing loans/acre	0.00	0.00	0.00	0.00	0.00	0.00
ACRE/acre	3.39	0.00	-3.39	0.00	-3.39	0.00
Sen. ARC or House RLC/acre	0.00	4.60	4.60	9.61	9.61	5.01
PLC/acre	0.00	2.66	2.66	0.00	0.00	-2.66
Insurance net indemnities/acre	16.73	19.97	3.24	18.50	1.77	-1.46
Sum of above/acre	527.22	534.94	7.72	534.52	7.29	-0.43
Direct payments/base acre	11.10	0.00	-11.10	0.00	-11.10	0.00
CCPs or AMPs/base acre	0.01	0.00	-0.01	0.39	0.38	0.39
(DPs + CCPs or AMP)/base a.	11.12	0.00	-11.12	0.39	-10.73	0.39
Wheat						
Market sales/acre	284.58	283.64	-0.95	284.12	-0.46	0.48
Marketing loans/acre	0.04	0.06	0.02	0.05	0.01	-0.01
ACRE/acre	2.24	0.00	-2.24	0.00	-2.24	0.00
Sen. ARC or House RLC/acre	0.00	1.67	1.67	7.66	7.66	5.99
PLC/acre	0.00	6.94	6.94	0.00	0.00	-6.94
Insurance net indemnities/acre	13.52	16.99	3.48	15.33	1.81	-1.66
Sum of above/acre	300.38	309.30	8.92	307.17	6.79	-2.14
Direct payments/base acre	14.65	0.00	-14.65	0.00	-14.65	0.00
CCPs or AMPs/base acre	0.07	0.00	-0.07	0.16	0.09	0.16
(DPs + CCPs or AMP)/base a.	14.72	0.00	-14.72	0.16	-14.56	0.16
Upland cotton						
Market sales/acre	694.86	689.80	-5.05	689.01	-5.85	-0.79
Marketing loans/acre	17.74	18.14	0.40	18.20	0.46	0.06
ACRE/acre	0.03	0.00	-0.03	0.00	-0.03	0.00
Insurance net indemnities/acre	33.50	60.63	27.13	60.59	27.09	-0.04
Sum of above/acre	746.13	768.57	22.44	767.80	21.66	-0.78
Direct payments/base acre	33.72	10.32	-23.40	0.00	-33.72	-10.32
CCPs/base acre	9.39	0.00	-9.39	0.00	-9.39	0.00
(DPs + CCPs)/base acre	43.10	10.32	-32.78	0.00	-43.10	-10.32

*Note: Program payments and crop insurance net indemnities are averages across all producers, weighted by program participation rates. Thus payments for participants in particular programs will be greater than the figures shown whenever participation rates are less than 100%.

Table 9b. Crop returns*, dollars per acre, 2014-2018 average, continued

	Baseline	House		Senate		
		Level	Change vs. Baseline	Level	Change vs. Baseline	Change vs. House
Rice						
Market sales/acre	1,047.37	1,027.00	-20.37	1,057.40	10.03	30.40
Marketing loans/acre	0.00	0.00	0.00	0.00	0.00	0.00
ACRE/acre	0.37	0.00	-0.37	0.00	-0.37	0.00
Sen. ARC or House RLC/acre	0.00	0.14	0.14	1.09	1.09	0.95
PLC/acre	0.00	75.64	75.64	0.00	0.00	-75.64
Insurance net indemnities/acre	12.53	18.85	6.33	19.99	7.46	1.13
Sum of above/acre	1,060.26	1,121.64	61.37	1,078.48	18.21	-43.16
Direct payments/base acre	95.93	0.00	-95.93	0.00	-95.93	0.00
CCPs or AMPs/base acre	0.04	0.00	-0.04	31.58	31.54	31.58
(DPs + CCPs or AMP)/base a.	95.98	0.00	-95.98	31.58	-64.39	31.58
Sorghum						
Market sales/acre	292.41	291.92	-0.49	291.49	-0.92	-0.43
Marketing loans/acre	0.00	0.00	0.00	0.00	0.00	0.00
ACRE/acre	1.08	0.00	-1.08	0.00	-1.08	0.00
Sen. ARC or House RLC/acre	0.00	2.43	2.43	7.18	7.18	4.75
PLC/acre	0.00	4.88	4.88	0.00	0.00	-4.88
Insurance net indemnities/acre	14.93	17.06	2.14	15.95	1.02	-1.11
Sum of above/acre	308.42	316.29	7.88	314.62	6.20	-1.67
Direct payments/base acre	16.50	0.00	-16.50	0.00	-16.50	0.00
CCPs or AMPs/base acre	0.00	0.00	0.00	0.26	0.26	0.26
(DPs + CCPs or AMP)/base a.	16.50	0.00	-16.50	0.26	-16.24	0.26
Barley						
Market sales/acre	319.84	304.89	-14.95	319.31	-0.53	14.42
Marketing loans/acre	0.03	0.07	0.03	0.05	0.02	-0.02
ACRE/acre	2.51	0.00	-2.51	0.00	-2.51	0.00
Sen. ARC or House RLC/acre	0.00	1.45	1.45	8.44	8.44	6.99
PLC/acre	0.00	44.43	44.43	0.00	0.00	-44.43
Insurance net indemnities/acre	9.78	12.63	2.84	11.09	1.31	-1.54
Sum of above/acre	332.16	363.46	31.30	338.89	6.72	-24.58
Direct payments/base acre	9.25	0.00	-9.25	0.00	-9.25	0.00
CCPs or AMPs/base acre	0.08	0.00	-0.08	0.13	0.06	0.13
(DPs + CCPs or AMP)/base a.	9.33	0.00	-9.33	0.13	-9.20	0.13
Peanuts						
Market sales/acre	909.11	838.80	-70.31	913.10	3.99	74.30
Marketing loans/acre	12.85	20.22	7.37	11.75	-1.11	-8.47
ACRE/acre	0.06	0.00	-0.06	0.00	-0.06	0.00
Sen. ARC or House RLC/acre	0.00	0.24	0.24	1.73	1.73	1.49
PLC/acre	0.00	110.86	110.86	0.00	0.00	-110.86
Insurance net indemnities/acre	31.52	39.68	8.16	40.39	8.87	0.71
Sum of above/acre	953.55	1,009.80	56.25	966.97	13.42	-42.83
Direct payments/base acre	45.84	0.00	-45.84	0.00	-45.84	0.00
CCPs or AMPs/base acre	23.34	0.00	-23.34	59.80	36.46	59.80
(DPs + CCPs or AMP)/base a.	69.18	0.00	-69.18	59.80	-9.38	59.80

*Note: Program payments and crop insurance net indemnities are averages across all producers, weighted by program participation rates. Thus payments for participants in particular programs will be greater than the figures shown whenever participation rates are less than 100%.

Base acreage vs. planted acreage

Base acreage was determined by cropping patterns from many years ago, and today's planted acreage can be very different, both on a particular farm and for the country as a whole. Producers with a lot of base acreage relative to planted acreage will be the most affected by the loss of DCP payments. Producers with more planted acreage than base acreage may benefit from the shift to programs like ARC, PLC, RLC, SCO and STAX. These new programs, except AMP, are tied to actual planted area, even though ARC, PLC and RLC do retain some limits on eligible area. U.S. planted acreage far exceeds base acreage for soybeans, while the reverse is true for wheat, upland cotton, sorghum, barley and rice (Table 10).

Across 10 major crops, national base acreage is 2 percent greater than projected 2014-2018 planted acreage. This is a closer match between planted and base acreage than occurs for any particular crop. It suggests that on average, total base acreage across all crops matches overall area planted to grains, oilseeds and cotton, but that the current planted acreage mix may be very different than the allocation of base acreage. On particular farms, total base acreage can be very different than total planted area.

Because DCP payments are tied to base acreage, many producers are currently receiving DCP payments tied to a historical mix of crops on a farm that no longer matches current production patterns. Under the House and Senate bills, benefits are tied to production of particular commodities. This can confuse comparisons of the impact of the bills on payments to producers of particular crops. Many current soybean producers, for example, are receiving DCP payments associated with other crops. Likewise, many producers receiving wheat, cotton and rice DCP payments are actually planting other crops or devoting their land to other uses.

The proposed shift from payments tied to base acreage to payments tied to planted acreage helps explain some of the production and price impacts discussed earlier. Because DCP payments are tied to base acreage and do not require producers to grow any particular crop or even any crop at all, they probably have a smaller impact on planted acreage, dollar-for-dollar, than programs that do require current production. Thus, the results show slightly more area planted to major crops under the two bills than in the Baseline, even though the sum of government payments and crop insurance net indemnities is lower.

Table 10. Planted and base area in the Baseline, million acres, 2014-2018 average

	Planted area	Baseline base area	Absolute difference	Percent difference
Corn	91.54	84.69	-6.85	-7.5%
Soybeans	77.15	50.35	-26.80	-34.7%
Wheat	54.34	73.80	19.46	35.8%
Upland cotton	9.95	17.97	8.02	80.6%
Sorghum	6.74	11.65	4.92	72.9%
Barley	3.19	8.57	5.38	168.6%
Oats	2.86	3.02	0.16	5.5%
Rice	2.85	4.40	1.55	54.5%
Peanuts	1.40	1.47	0.07	5.2%
Sunflower seed	2.15	1.79	-0.35	-16.5%
10-crop total	252.17	257.73	5.56	2.2%

Government budgetary outlays

The farm bill provisions examined in this report reduce average levels of budgetary outlays on farm programs and crop insurance (Table 11). The small reported changes in Conservation Reserve Program (CRP) spending under the two bills reflect only the estimated changes in program enrollment and rental rates resulting from the commodity program provisions of the bills and do not consider the impacts of the proposed caps on CRP acreage.

Eliminating the DCP and ACRE programs would reduce farm program outlays by an estimated \$52 billion over the next ten fiscal years. The reduction would be even larger, but direct payments associated with the 2013 crop will be made in October 2013, which is part of fiscal year 2014.

In the **Senate** bill, some of the savings associated with eliminating the DCP and ACRE programs is offset by the cost of the new AMP, ARC, SCO and STAX programs. The estimated 10-year budgetary effect of the provisions examined is to reduce net outlays by \$18.1 billion relative to the Baseline. Expenditures by the Commodity Credit Corporation (CCC) for traditional farm programs, AMP and ARC are reduced by a net of \$28.2 billion, while crop insurance costs associated with SCO, STAX and changes in producer participation and coverage levels increase net outlays by \$10.0 billion.

CBO estimated that the same set of program changes would reduce net outlays by \$16.4 billion. FAPRI-MU's estimated net savings of the Title I changes considered in this analysis is greater than that estimated by CBO because of lower estimated costs for ARC and AMP. This is partially offset by larger FAPRI-MU estimated costs for the changes in crop insurance programs.

In the **House** bill, the new PLC, RLC, STAX and SCO provisions offset some of the savings from eliminating the DCP and ACRE programs. The estimated 10-year budgetary effect of the provisions examined is to reduce net outlays by \$12.6 billion relative to the Baseline. Expenditures by the Commodity Credit Corporation (CCC) for traditional farm programs, PLC and RLC are reduced by a net of \$27.8 billion, while crop insurance costs associated with SCO, STAX and changes in producer participation and coverage levels increase net outlays by \$15.2 billion.

The CBO estimate for the same set of policy changes was a net outlay reduction of \$15.9 billion. FAPRI-MU estimates larger net savings from the Title I changes considered in this analysis, but estimated a much higher cost for SCO. CBO estimated the 10-year cost of SCO at \$3.9 billion, compared to \$9.8 billion in this analysis. Differences in assumed participation rates account for part of the difference in SCO costs.

In comparing the selected provisions of the two bills, CBO estimates similar net savings for the House and Senate bills, while this analysis shows larger net savings from the examined provisions of the Senate bill. Title I changes in the two bills have very similar net budgetary impacts in both CBO's and FAPRI-MU's analyses, although FAPRI-MU shows larger net savings for the Title I provisions of both bills than does CBO. This analysis, however, suggests much larger spending on SCO under the House bill, and this accounts for most of the difference in the FAPRI-MU estimated fiscal cost of the two bills. SCO should be very attractive to producers enrolling in the House PLC program, although participation levels remain very uncertain. In the Senate bill, the limitation in the available level of SCO coverage for ARC participants and the limited AMP payments for crops other than rice and peanuts contributes to a sharply lower estimated fiscal cost than under the House bill, where PLC participants are eligible for SCO with the 10 percent deductible.

Table 11. Government budgetary outlays (Commodity Credit Corporation and crop insurance), million dollars, FY 2014 – FY 2023 total*

	Baseline	House		Senate		
		Level	Change vs. Baseline	Level	Change vs. Baseline	Change vs. House
CCC net outlays	92,288	64,477	-27,812	64,138	-28,151	-339
Corn	22,644	13,068	-9,576	15,149	-7,495	2,081
Soybeans	7,808	4,921	-2,887	6,605	-1,203	1,684
Wheat	12,222	5,394	-6,828	4,780	-7,442	-614
Upland cotton	9,016	3,510	-5,505	2,611	-6,405	-899
Rice	4,213	2,197	-2,016	1,224	-2,989	-973
Peanuts	1,275	1,723	448	1,095	-179	-628
Sorghum	1,933	549	-1,384	527	-1,406	-22
Barley	839	1,229	390	267	-572	-962
Conservation reserve	23,568	23,114	-455	23,100	-469	-14
All other	8,771	8,771	1	8,780	10	9
Crop insurance net outlays	85,806	101,013	15,206	95,842	10,036	-5,171
STAX net indemnities	0	2,636	2,636	2,637	2,637	1
SCO net indemnities	0	9,839	9,839	5,969	5,969	-3,870
All other	85,806	88,538	2,731	87,236	1,429	-1,302
CCC + crop insurance	178,095	165,490	-12,605	159,980	-18,115	-5,510

*The FAPRI-MU model only makes outlay estimates through FY 2022. For purposes of this table, it is assumed that FY 2023 outlays equal those in FY 2022.

Farm income and consumer food expenditures

Reduced government support contributes to lower **net farm income** (Table 12) under the House and Senate bills.

In the **Senate** bill, annual government payments are \$2.70 billion less than in the Baseline. Crop insurance net indemnities increase by \$0.79 billion, as indemnities increase by \$1.16 billion while producer-paid premiums increase by \$0.37 billion. Thus, annual program-related support (government payments plus crop insurance net indemnities) falls by an average of \$1.91 billion relative to the Baseline.

Small changes in production and prices result in small changes in crop and livestock receipts, feed costs and other production costs. Reduced government support slightly reduces the demand for land, so rental payments to nonoperator landlords decline by \$0.20 billion. The net effect of all these changes is a \$2.10 billion reduction in annual net farm income compared to the Baseline.

In the **House** bill, annual government payments decline by an estimated \$2.85 billion relative to the Baseline and a slightly larger decline than in the Senate bill. Because of differences in SCO provisions and program participation, total crop insurance indemnities increase by an average of \$1.79 billion each year relative to the Baseline, while producer-paid premiums increase by \$0.59 billion. Crop insurance net indemnities increase by an annual average of \$1.20 billion relative to the Baseline and \$0.43 billion relative to the Senate bill, and annual program-related support (government payments plus crop insurance net indemnities) falls by an average of \$1.65 billion relative to the Baseline.

With similar changes in other components of the farm income accounts, net farm income falls by an annual average of \$1.84 billion relative to the Baseline. Average annual net farm income is \$0.27 billion greater under the House bill than under the Senate bill, almost identical to the difference in annual program-related support between the two bills.

Consumer food expenditures are almost unchanged from the Baseline under each of the two bills (Table 13). This is consistent with generally small changes in crop production and farm-level crop and livestock prices, and with the fact that farm commodity prices account for a small proportion of overall consumer-level food costs.

Table 12. Farm income, billion dollars, 2014-2018 average

	Baseline	House		Senate		
		Level	Change vs. Baseline	Level	Change vs. Baseline	Change vs. House
Crop receipts	211.17	210.96	-0.21	210.85	-0.31	-0.11
Livestock receipts	179.79	179.73	-0.06	179.65	-0.14	-0.08
Government payments	11.10	8.25	-2.85	8.39	-2.70	0.15
Crop insurance indemnities	9.87	11.66	1.79	11.03	1.16	-0.63
Rental payments to nonoperators	16.15	15.97	-0.17	15.94	-0.20	-0.03
Feed costs	52.88	52.79	-0.10	52.71	-0.17	-0.08
Crop insurance premiums*	3.98	4.58	0.59	4.35	0.37	-0.23
Other production costs	278.37	278.89	0.52	278.45	0.08	-0.44
Other net farm income	47.57	47.90	0.34	47.53	-0.03	-0.37
Net farm income	108.10	106.27	-1.84	106.00	-2.10	-0.27

*Producer-paid premiums

Table 13. Consumer food expenditures, billion dollars, 2014-2018 average

	Baseline	House		Senate		
		Level	Change vs. Baseline	Level	Change vs. Baseline	Change vs. House
Total food expenditures	1,434.46	1,434.36	-0.10	1,434.29	-0.17	-0.07

Variability in program costs and benefits

Current and proposed farm programs differ greatly in the variability of program costs and benefits. The existing DP program is very predictable; unless there is a change in law, spending will be about \$5 billion every year. Projected prices are high enough that CCPs are not likely to occur very frequently even if current laws were extended. ACRE benefits would show more annual variation, but low program participation rates limit budgetary exposure. Crop insurance accounts for most of the variability in farm program outlays under current farm bill provisions, as indemnity payments can change dramatically from one year to the next depending on crop yields and prices, as experienced in the aftermath of the 2012 drought.

Figure 1 shows the **Baseline** distribution of the sum of net outlays by the CCC and the Federal Crop Insurance Corporation (FCIC) for traditional farm programs and crop insurance. While the figures change a bit from year to year, the average annual outlays from FY 2014-22 are \$17.8 billion.

In some years, crop insurance expenditures will be much greater than the average, and occasionally the ACRE and CCP programs would have some modest level of expenditures. In 10 percent of the 500 cases examined for any given year, total outlays are at least \$3.4 billion greater than the average. Likewise, there will be years where crop insurance claims would be limited and there would be no significant CCP or ACRE expenditures. In 10 percent of the results for any given year, total outlays are at least \$2.7 billion below the average across all 500 outcomes.

The Senate and the House bills both replace very predictable DPs with new programs where spending is very sensitive to market conditions. Under the **Senate** bill, spending on ARC, AMP, STAX and SCO is likely to be lower on average than spending the programs they replace, so average CCC and FCIC net outlays average \$16.0 billion per year (Figure 2).

When revenues decline, the new programs can result in large program outlays. In 10 percent of the 500 market outcomes for any given year, net outlays exceed the average level by more than \$4.1 billion. In other words, even though average outlays are much lower under the Senate bill than in the baseline, payments can in extreme cases be as high, or even higher, than under current law. There are also circumstances that result in much lower levels of expenditures under the Senate bill. In 10 percent of the cases for a given year, net outlays under the Senate bill are at least \$3.4 billion below the average, and thus are far below levels of support that would be provided under Baseline policies.

Under the **House** bill, the distribution of payments is broadly similar to that under the Senate bill, although the range is a bit wider (Figure 3). The average level of projected spending given the assumptions of this analysis is \$16.6 billion over the FY 2014-22 period. In 10 percent of the outcomes for any given year, net outlays may exceed the average by \$5.2 billion or more and in 10 percent it may fall short of the average by at least \$3.9 billion. As with the Senate bill, spending can be even greater than in the Baseline under some circumstances, but in other cases, spending will be far below Baseline levels.

Note that the House bill provisions examined in this report do not include the amendment offered on the floor by **Rep. Foxx** and adopted by the full House. That amendment places a cap on overall spending on PLC and RLC. In most cases, the cap would not matter, but in a significant portion of the stochastic outcomes, it would limit subsidies to producers in the later years of the five-year farm bill. For example, if commodity prices are persistently well below average, PLC expenses could be large enough that the cap could be reached. If the cap were adopted and implemented, it would reduce the expected cost of the House bill by several billion dollars relative to the estimates presented here.

Figure 1. Distribution of CCC plus crop insurance outlays under Baseline policies, fiscal year

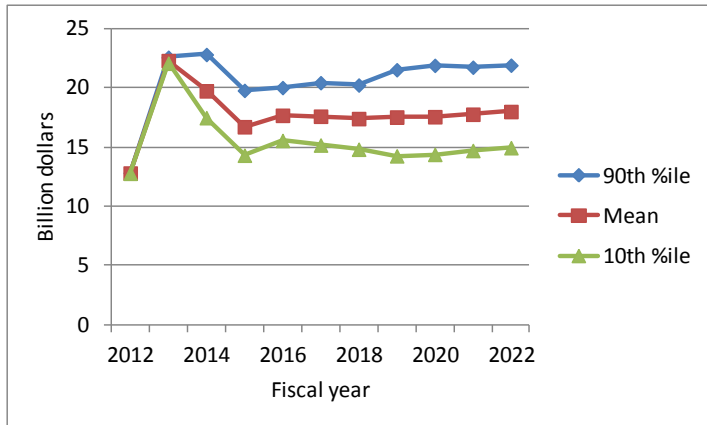


Figure 2. Distribution of CCC plus crop insurance outlays under the Senate bill, fiscal year

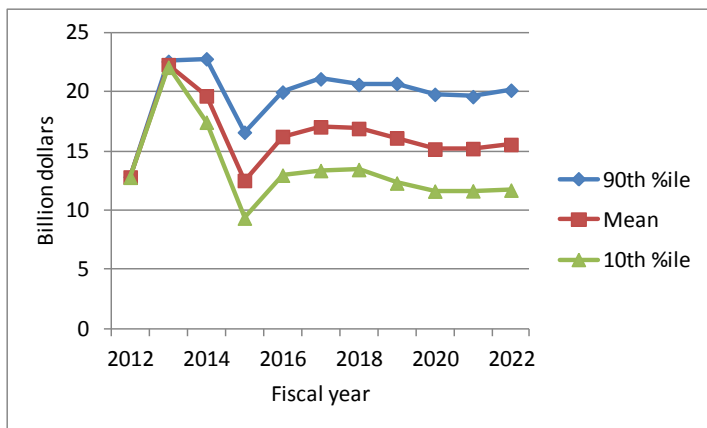
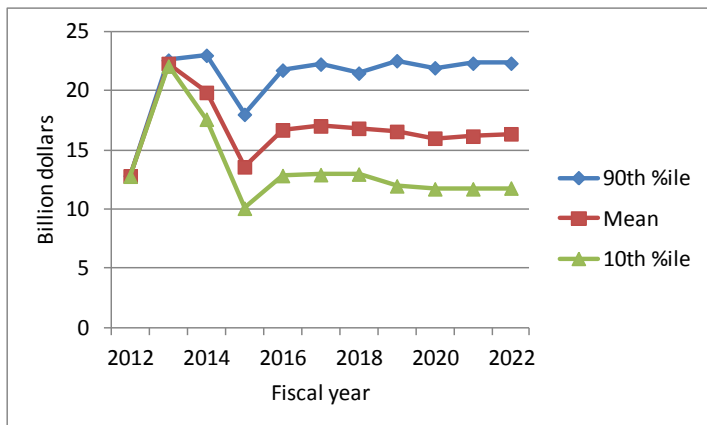


Figure 3. Distribution of CCC plus crop insurance outlays under the House bill, fiscal year



Conservation Reserve Program caps

Under 2008 farm bill policies in the baseline, the cap on enrollment in the Conservation Reserve Program (CRP) is 32 million acres. Actual enrollment during the 2013 crop year was about 27 million acres, so the cap is not currently binding. In the January 2013 FAPRI-MU baseline, CRP enrollment rebuilds to almost 31 million acres. With lower grain and oilseed prices starting in 2013/14 relative to the very high prices of 2011/12 and 2012/13, producers may be more interested in enrolling acres in the CRP, and USDA could choose to be more aggressive in trying to encourage enrollment.

Based on the most recent sign-up for CRP, it now appears that 2014 CRP enrollment will be significantly below the levels assumed in the January 2013 FAPRI-MU baseline. What will happen in subsequent years is not known, even if the current CRP cap were maintained.

Both the House and Senate bills would restrict CRP enrollment. The **House** would eventually place a 24 million acre cap on CRP enrollment, and would include in the cap a new grassland option of 2 million acres to replace the rental agreement option provided under current law in the Grasslands Reserve Program (GRP). The **Senate** bill would set the cap at 25 million acres, and would also include 1.5 million acres under the grassland enrollment option in the total.

Relative to the **Baseline**, both bills would have a significant impact on CRP enrollment. In the **House** bill, the reduction in CRP enrollment averages almost 5 million acres over the 2014-18 period (Table 14). This would result in an increase in planted area for all the major crops, with the largest proportional increases in crops grown in regions where CRP enrollment is currently the greatest. The overall increase in area planted, however, is much smaller than the reduction in the size of the CRP. Much of the land leaving the CRP may be devoted to pastureland and forage crops instead of grains, oilseeds or cotton. Furthermore, the resulting reduction in crop prices could result in some other marginal acres exiting production of the major program crops. Thus, the net increase in planted area for 12 major crops is just 1.6 million acres.

This increase in production results in lower prices for all the major crops, with corn, wheat and soybean prices all declining by a little over 1 percent relative to the baseline (Table 15). Note that these price impacts, though small, may be larger than the average impact on prices caused by the major commodity program and crop insurance changes examined in this report.

Under the **Senate** bill, the cap is greater so the effects on CRP and planted acreage and on prices for major crops are all smaller.

It should be emphasized that these estimated impacts are all contingent on an assumed path for future CRP enrollment under 2008 farm bill policies. If, as currently seems likely, actual enrollment would have been lower than projected in the FAPRI-MU baseline in January 2013, then the estimated impacts of the proposed caps would be smaller, all else equal. On the other hand, if more of the land currently enrolled in CRP were to return to production of major crops because of the proposed caps, then the effects on acreage and prices could be larger.

Finally, note that the impacts of the proposed caps on CRP enrollment are not considered in Tables 1-13, which focus on the changes in selected commodity and crop insurance programs.

Table 14. Planted area, million acres, 2014-2018 average, without and with new proposed CRP caps

	House			Senate		
	Without new CRP cap	With new CRP cap	Effect of new CRP cap	Without new CRP cap	With new CRP cap	Effect of new CRP cap
Corn	91.67	91.92	0.24	91.77	91.96	0.19
Soybeans	77.03	77.41	0.37	77.12	77.40	0.28
Wheat	54.38	55.01	0.63	54.24	54.70	0.45
Upland cotton	10.08	10.19	0.11	10.09	10.18	0.09
Sorghum	6.69	6.77	0.08	6.70	6.76	0.06
Rice	2.92	2.92	0.01	2.82	2.82	0.00
Oats	2.80	2.84	0.04	2.81	2.84	0.03
Barley	3.37	3.44	0.06	3.17	3.21	0.04
Sunflower seed	2.13	2.15	0.03	2.13	2.16	0.02
Peanuts	1.45	1.46	0.01	1.40	1.40	0.01
Sugar beets	1.21	1.21	0.00	1.21	1.21	0.00
Sugarcane	0.88	0.88	0.00	0.88	0.88	0.00
12 major crops	254.62	256.20	1.58	254.34	255.51	1.17
CRP	30.02	25.16	-4.86	30.08	26.47	-3.61

Table 15. Change in crop prices due to proposed caps on CRP enrollment, 2014-2018 average

	House	Senate
Corn	-1.1%	-0.9%
Soybeans	-1.3%	-1.0%
Wheat	-1.5%	-1.1%
Upland cotton	-0.8%	-0.6%
Sorghum	-1.2%	-0.9%
Rice	-0.3%	-0.2%
Oats	-0.9%	-0.7%
Barley	-2.3%	-1.5%
Sunflower seed	-0.7%	-0.5%
Peanuts	-1.7%	-0.8%

WTO concerns

The Uruguay Round Agreement on Agriculture (URAA) put in place limits on domestic agricultural support measures, and trade negotiations have included proposals to more tightly restrict those support measures in the future. Each year, the United States and other countries are expected to notify the World Trade Organization (WTO) of its domestic support measures, based on criteria established under the URAA.

The United States has notified the WTO that the Direct Payment program is a “green box” program that has no more than minimal production effects, and that therefore is not included in the “Aggregate Measure of Support” (AMS) that is subject to limitation. Crop insurance premium subsidies, marketing loan benefits and countercyclical payments are examples of “amber box” subsidies that must be included in the AMS, at least under certain circumstances. The AMS also includes an imputed value to producers of the dairy and sugar price support programs. Given the accounting rules used, the dairy and sugar contribution to the AMS can be greater than that for all other programs combined, even when the dairy and sugar programs result in no budgetary outlays.

In both the House and Senate bills, eliminating the Direct Payment program and creating the ARC, AMP, PLC, RLC, STAX and SCO programs results in the replacement of a program the U.S. declares to be a green box program with programs that appear likely to be considered amber box support, at least under current WTO accounting rules. All else equal, this would make it more likely that this country might exceed its commitments to limit amber box spending.

Offsetting this impact may be the proposed changes in dairy policy. Without speculating how new dairy policies might be classified for WTO purposes, the elimination of the dairy product price support program appears likely to result in a sharp reduction in amber box support.

Given URAA accounting rules, preliminary estimates suggest that the United States would be unlikely to exceed its commitment to limit amber box spending under either bill.

Trade negotiations could eventually lead to a new WTO agreement that would further restrict agricultural support programs. Under proposals tabled in 2008, for example, the allowed level of U.S. amber box support would be sharply reduced from the current cap. Perhaps even more importantly, limitations would be placed on the allowed level of amber box support provided to particular crops. Preliminary analysis suggests that the proposed House and Senate bills could frequently result in support to particular commodities in excess of the proposed commodity-specific caps. The proposed caps on overall amber box spending and a measure referred to as the level of “overall trade-distorting support” could also be exceeded under some circumstances.

Finally, it should be noted that trade disputes can arise even when amber box support measures do not exceed WTO commitment levels. As occurred in the cotton case brought to the WTO by Brazil, countries can challenge U.S. policies on the grounds that they increase production or exports and thereby lower prices in world markets.

Renewable Fuel Standard (RFS) impacts

The RFS is assumed to remain in place in all farm bill options explored. The RFS is not part of the farm bill, but Congressional staff requested an estimate of how the RFS affects agricultural markets.

The RFS sets minimum levels of biofuel use, with some adjustments such as for shortfalls in cellulosic biofuel production relative to the target volume. The baseline assumption is that this shortfall in cellulosic production potential is reflected to a growing extent in reductions in broader mandates. Despite slower growth than in the initial legislation, the rising volumes required and the difficulty of expanding ethanol use beyond the amount that can be used in 10 percent blends with gasoline (the “blend wall”) are projected to make the RFS binding in most of the stochastic simulations.

To explore the impacts of the RFS, the FAPRI-MU stochastic models were simulated without the RFS and the results with and without the RFS are compared. Impacts are estimated for a “base” case and a “steeper blend wall” case, distinguished by the difficulty of expanding ethanol use in higher level blends.

Removing the RFS leads to less biofuel use and production, so there is less demand for biofuel feedstocks. The corn farm price is lower by \$0.27-\$0.33 per bushel, or 6-7 percent, and the soybean price is reduced by \$0.85-\$1.11 per bushel, or 8-10 percent. Because of substitution effects in both supply and demand, other crop prices are also reduced, but the impacts are proportionally smaller.

Ethanol use is lower if there is no RFS, but falls to about the level that can be used in 10 percent blends (E10) in the medium-term future, not lower, given existing production capacity and market structure. There is some potential for use beyond E10 in the base case, but less possibility of additional use in the steeper blend wall case.

Biodiesel use is much lower without the RFS. The impact is larger in the steeper blend wall case relative to the base case because of expanded biodiesel use to meet the mandates.

Table 16. Biofuel and commodity market impacts of RFS, 2014-2018 average

	Base			Steeper blend wall		
	Level with RFS	Level no RFS	Change with no RFS	Level with RFS	Level no RFS	Change with no RFS
Biofuel production, billion gallons						
Ethanol	16.1	14.0	-2.1	15.9	13.7	-2.3
of which, corn ethanol	15.3	13.8	-1.5	15.2	13.4	-1.8
Biodiesel	1.5	0.6	-0.9	1.8	0.6	-1.2
Farm prices						
Corn, dollars per bushel	4.78	4.51	-0.27	4.80	4.47	-0.33
Soybean, dollars per bushel	11.33	10.48	-0.85	11.56	10.44	-1.11
Wheat, dollars per bushel	6.11	5.91	-0.20	6.13	5.88	-0.25
Cotton, cents per pound	68.81	67.91	-0.90	68.85	67.79	-1.07
Rice, dollars per hundredweight	14.01	13.83	-0.18	14.03	13.81	-0.22

Another key uncertainty is regarding the biofuel mandates after waivers. We assume broader mandates are reduced by an increasing share of the cellulosic production shortfall, but if broader mandates were reduced more quickly, then agricultural market impacts would be smaller than shown here. The RFS would have larger agricultural market impacts if there are smaller or no reductions in broader mandates.

Final comments

The analysis presented here only covers certain provisions of the House and Senate bills, and the results depend on a long series of assumptions about policy implementation and the response of farmers and other actors in the agricultural sector.

Other provisions of the bills could have important impacts. Conservation program changes could have consequences for the environment, and the payments and regulations could have significant impacts on producer revenues and expenses. Dairy program changes could affect not just dairy producers, processors and consumers, but also the demand for feed and other inputs. Changes in the SNAP program have obvious impacts for those currently participating in the program, but they could also have effects on total food demand and thus on the prices that consumers pay for food and that farmers receive for the products they sell.

Changes in the agricultural market outlook would result in different estimates, and some of the differences could be large. FAPRI-MU's baseline update released on August 27, 2013 showed slightly different projected prices than in the January 2013 baseline used for this analysis. Where average price projections have declined since January, such as in the case of corn and soybeans, the potential for benefits under some of the policies proposed in the two bills would appear greater. On the other hand, lower average prices would tend to reduce future average federal spending on the crop insurance program. Lower crop prices are likely to reduce the value of crops insured, and premium subsidies are generally proportional to expected crop values. Actual prices, of course, will certainly differ from the projections, both in terms of averages and distributions, with important consequences for program outlays and producer benefits.

The analysis also depends on many assumptions about program implementation, some of which may be important. Experience with the ACRE program shows that assumptions about how a program will be implemented in practice will often prove incorrect. Program implementation could have important implications for program participation decisions, program outlays and on many other indicators.

Finally, one can never know with certainty how actors will respond to changes in economic incentives. How many people would choose to enroll in the various optional programs proposed under the two bills? How would production choices be affected by the new payment rules? Actual behavior by economic actors is certain to differ, perhaps in important ways, from that incorporated in the models used to conduct this analysis.