



## Shallow Loss Programs and the 2012 Farm Bill Debate

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A signature issue of the 2012 farm bill debate is the addition of a shallow loss program to complement existing crop insurance. Shallow loss programs are included in the farm bills passed by the U.S. Senate and the House Committee on Agriculture. Unless the policy environment changes dramatically, the main question is which version(s) of shallow loss programs will be chosen. This article describes the general approach and program specifics of the various shallow loss proposals and offers some limited, initial observations.

### Historical Perspective

Since the mid-1970s, concern over farm losses due to adverse weather has manifested itself in the consistent, sometimes annual, passage of *ad hoc* disaster assistance, or disaster assistance after a disaster has occurred. Initially, the legislation addressed significant losses due to widespread, adverse weather. As crop insurance grew in size and scope, concern arose over the potential for *ad hoc* disaster assistance to discourage the purchase of insurance. In incremental steps, Congress began to require either the purchase of insurance or provided differential assistance conditional on whether or not the farm had crop insurance.

In the 2008 Farm Bill, Congress took another step in this evolutionary process by including the SURE program. Commonly-referred to as permanent disaster assistance, SURE required the purchase of insurance and essentially increased a farm's insured coverage level by 15 percent. Thus, SURE addressed losses less than the insurance deductible elected by the farm. Such losses are often referred to as shallow losses. Thus, the long-term Congressional interest in losses not covered by crop insurance had evolved to a policy that addressed shallow losses.

### Shallow Loss Policy in the 2012 Farm Bill

Both the Senate and House Committee Farm Bills contain shallow loss programs, with each Bill having alternative shallow loss programs. The various shallow loss programs can be grouped into two general approaches.

One approach to shallow loss is to cover a fixed range of loss that is specified in the legislation and that uses prices and yields not tied to crop insurance. This approach is embodied in the Agriculture Risk Coverage (ARC) option in the Senate Bill and the Revenue Loss Coverage (RLC) option in the House Committee Bill. The range of loss covered by ARC is 79 percent to 89 percent of the revenue target while the range of loss covered by RLC is 75 percent to 85 percent of the revenue target. The majority of crop insurance has coverage levels of 75% or smaller. Thus, both loss ranges exceed the typical deductible elected by U.S. farms. Both ARC and RLC use an Olympic moving average (removes low and high value) of crop year yields and prices.

The second shallow loss approach is to allow farms to buy a modified county insurance product to cover county-wide losses that are between the coverage level elected by the individual farm and 90 percent, or anywhere in between. This is a variable coverage approach, with the farm electing the shallow loss coverage range. Moreover, prices and yields are values currently used by crop insurance county products. Both the Supplemental Coverage Option (SCO) and Stacked Income Protection Plan (STAX) use this approach. STAX is only for upland cotton. SCO and STAX are included in both the Senate Bill and the House Committee Bill.

From the broad perspective of the farm safety net, the shallow loss programs are in part a replacement for the direct payment program, which both Farm Bills eliminate. Thus, the shallow loss program replaces a fixed direct payment that happens every year with a payment that depends on the farm experiencing a loss as defined by the shallow loss program. Deep losses are addressed by existing crop insurance products.

### **Contrasting Specific Shallow Loss Program Parameters**

Besides different general approaches, the shallow loss programs also differ in other parameters. Differences are to be expected at this stage of the process, in part because these are new programs. Most of the differences are presented in Table 1. A few are discussed below.

The Senate ARC program has both an individual farm and county shallow loss program. Farms would choose one of them.

Under the Senate Bill, farmers can choose to enroll in ARC or not. Either way, they can purchase SCO for some or all of their acreage but the SCO loss coverage maximum is limited to 80 percent if the farm is enrolled in ARC. Under the House Committee Bill, farmers who enroll in RLC are not eligible to purchase any coverage under SCO.

SCO and STAX require a premium payment by the farm. The public subsidizes 70% of the premium for SCO and 80% of the premium for STAX. ARC and RLC require no premium payment by the farm, but cover only part of the farm's acres. In contrast, SCO and STAX cover all planted acres. ARC and SCO have a coverage range of 10 percentage points, which is less than the potential coverage range for SCO and STAX of at least 20 percentage points. In addition, SCO and STAX have no payment limit while ARC and RLC have payment limits. Thus, relative to ARC and RLC, the cost savings due to having farms pay a premium for SCO and STAX are at least partially and maybe totally offset by other program parameters.

### **Observations**

A shallow loss program will generate benefits that will differ for different areas of the U.S. This effect is illustrated using the farm level data of the Illinois and Kansas farm management associations. Revenue losses were calculated using the plant and harvest insurance prices, the

5 year average of the farm's yield per planted acre, and planted acres. Average loss and variability of loss are notably greater for corn, soybeans, and wheat in Kansas than in Illinois (see Table 2). These differences reflect agro-climatic conditions. In particular, Kansas is subject to more weather and crop stress than Illinois.

The share of losses that exceed 75%, a common level of insurance brought by farmers, is much greater in Kansas than in Illinois. For example, only 8% of losses for Illinois corn were accounted for by losses that exceeded 25% in size. The comparable number for Kansas corn was 23%. The same relative relationships exist for losses greater than 10%. The implication is that Illinois farms have more to gain from a shallow loss program than do Kansas farms because of the differences in the distribution of losses. The alternative companion observation is that the shallow loss program addresses the imbalance that current crop insurance programs provide more protection for Kansas farms than for Illinois farms.

The two approaches to coverage of shallow losses represented by ARC and RLC versus SCO and STAX are competitive in design. There is no inherent reason to have both approaches.

A general design principal of risk management programs is that any differences in the payment triggering parameters creates the potential for both overcompensation and undercompensation for a loss resulting from the occurrence of a risk. In this instance, overcompensation and undercompensation refer simply to whether the farm receives a level of payment that just offsets a particular loss on the farm. While undercompensation creates a risk management problem for the farm, overcompensation increases program costs to the government and potentially distorts production.

The overcompensation issue occurs particularly with ARC and RLC which differ from individual farm insurance in regard to how price and yield are determined. ARC and RLC define a loss relative to a revenue target calculated using a 5-year Olympic average (removes low and high values) of yield and price. It is unlikely that that price and yield parameters will be the same for individual farm insurance and the ARC and RLC programs. In contrast, SCO and STAX define a loss relative to prices and yield currently used by the county insurance products.

To illustrate overcompensation under these differences, assume only price variability exists and, for specificity, that ARC has an Olympic average price of \$5.25 while crop insurance has a price of \$6.00 and the farm buys 75 percent individual insurance. In this situation, ARC makes payments when price is between \$4.15 (79 percent of \$5.25) and \$4.67 (89 percent of \$5.25) while insurance makes payments when price is less than \$4.50 (75 percent of \$6). Thus, both programs make payments when price is between \$4.15 and \$4.50. Of course, there are many scenarios when no overcompensation occurs.

Another consideration is that both shallow loss approaches can compete against individual farm insurance. A potential risk management decision is to lower the level of individual farm insurance and to complement it with the county-level SCO and STAX insurance. Both ARC and RLC may encourage farms to buy lower individual insurance if the prices are the same in both programs since ARC and RLC have no premium. But, the negative impact of ARC and RLC on

crop insurance decisions is mitigated by the less than 100% coverage of planted acres and by the payment limit. The latter in particular will be a key consideration for larger farms. As this brief discussion illustrates, the assessment of the overlap between existing crop insurance and the shallow loss programs is a complex topic that requires additional analysis, but is an issue that requires attention for both approaches to shallow losses.

## **Summary**

In summary, the Senate and House Agriculture Committee Farm Bills increase the share of farm production risk that is covered by U.S. risk management programs by adding a shallow loss program. The shallow loss program will have different impacts by area of the county, generally favoring the Midwest where losses on average tend to be smaller than in other parts of the U.S. An alternative view is that the shallow loss program balances out the greater value of the existing crop insurance program to other parts of the U.S. due to the larger losses on average in these areas. Both bills contain competing shallow loss approaches. There is no inherent reason to have competing approaches. Thus, a key decision for the remaining farm bill debate could turn out to be which of the two general shallow loss approaches is chosen by Congress, or whether farmers should be given a choice.

This publication is also available at <http://www.farmdoc.illinois.edu/>.

**Table 1. Comparison of Shallow Loss Programs, Senate Bill and House Agriculture Committee Bill, July 2012**

	Variable Coverage Using Crop Insurance Prices and Yields		Fixed Coverage Range Using Price and Yield not Based on Crop Insurance		
	SCO (Supplemental Coverage Option)	STAX (Stacked Income Protection)	Farm ARC (Agriculture Risk Coverage)	County ARC (Agriculture Risk Coverage)	RLC (Revenue Loss Coverage)
Level	County	County	Farm	County	County
Coverage Range	coverage on farm elected insurance to 90%, or in between	coverage on farm elected insurance to 90%, or in between	79% to 89%	79% to 89%	75% to 85%
Acres Covered	all planted	all planted	65% planted + 45% prevent plant <sup>A</sup>	80% planted + 45% prevent plant <sup>A</sup>	85% planted + 30% prevent plant <sup>A</sup>
Price Guarantee	insurance plant price	insurance plant price	5-year Olympic average of U.S. crop year price	5-year Olympic average of U.S. crop year price	5-year Olympic average of U.S. crop year price
Yield Guarantee	Insurance yield	Insurance yield	5-year Olympic average <sup>B</sup>	5-year Olympic average <sup>B</sup>	5-year Olympic average <sup>B</sup>
Premium Subsidy	70%	80%	---	---	---
SCO interaction	---	not available to acres in SCO	available to acres in SCO, but maximum is 80%	available to acres in SCO, but maximum is 80%	not available to acres in SCO
Payment Limit	None <sup>C</sup>	None <sup>C</sup>	\$50,000 per payment entity, with a separate limit for peanuts	\$50,000 per payment entity, with a separate limit for peanuts	\$125,000 per payment entity, with a separate limit for peanuts

NOTES: (A) farm's total payment acres cannot exceed its base acres, (B) Payment yield could be 1998-2001 counter-cyclical yield, and (C) Senate Farm Bill reduces the crop insurance subsidy by 15 percentage points if adjusted gross income exceeds \$750,000

**SOURCES:**

U.S. House of Representatives, Committee on Agriculture. (Accessed August 3, 2012). H.R. 6083, *Federal Agriculture Reform and Risk Management Act of 2012*, available at <http://thomas.loc.gov/cgi-bin/bdquery/z?d112:h.r.6083>

U.S. Senate. (Accessed August 3, 2012). S. 3240, *Agriculture Reform, Food and Jobs Act of 2012*, available at <http://thomas.loc.gov/cgi-bin/bdquery/z?d112:s.3240>

**Table 2. Crop Revenue Loss between Planting and Harvest, Illinois and Kansas Farm Management Association Farms, 1978-2008**

State and Crop	Average Loss	Standard Deviation of Loss	Share of All Loss that are Losses of	
			10% or more	25% or more
Illinois Corn	12%	16%	45%	8%
Illinois Soybeans	15%	11%	47%	10%
Illinois Wheat	22%	16%	59%	23%
Kansas Corn	24%	21%	58%	23%
Kansas Soybeans	31%	22%	68%	34%
Kansas Wheat	28%	23%	69%	38%

NOTE: Farm Loss is calculated as: [(plant insurance price times 5-year average of past yield times planted acres) minus (harvest insurance price times planted yield times planted acres)].

SOURCE: Original calculations using data from Illinois Farm Business Farm Management program, Kansas Farm Management Association, and USDA, NASS, accessed January 2010

**Table 1. Description of Shallow Loss Programs, Senate Bill and House Agriculture Committee Bill, July 2012**

Program	Description
Variable Coverage Range Shallow Loss Programs	
SCO (Supplemental Coverage Option)	<ul style="list-style-type: none"> <li>▶ In Senate Bill and House Agriculture Committee Bill</li> <li>▶ Covers revenue or yield risk at the county level between insurance coverage level elected by the farm and 90%</li> </ul>
STAX (Stacked Income Protection Plan)	<ul style="list-style-type: none"> <li>▶ In Senate Bill and House Agriculture Committee Bill</li> <li>▶ Separate insurance program for upland cotton</li> <li>▶ Covers revenue or yield risk at the county level between insurance coverage level elected by the farm could be individual farm or county insurance) and 90%. If insurance not bought, can elect STAX coverage between 70% to 90%</li> <li>▶ No minimum price in Senate Bill; \$0.6861/pound minimum price in House Bill</li> <li>▶ Multiplier factor up to 120% allowed</li> </ul>
Fixed Coverage Range Shallow Loss Programs	
ARC (Agriculture Risk Coverage)	<ul style="list-style-type: none"> <li>▶ In Senate Bill</li> <li>▶ Covers revenue risk at farm or county level - choice of farm</li> <li>▶ For county program, covers between 79% and 89% of (5-year Olympic average of county yield times 5-year Olympic average of US crop year price)</li> <li>▶ For farm program, covers between 79% and 89% of (5-year Olympic average of farm yield times 5-year Olympic average of US crop year price)</li> </ul>
RLC (Revenue Loss Coverage)	<ul style="list-style-type: none"> <li>▶ In House Agriculture Committee Bill</li> <li>▶ Covers revenue risk at county level</li> <li>▶ Covers between 75% and 85% of (5-year Olympic average of county yield times 5-year Olympic average of US crop year price)                             <ul style="list-style-type: none"> <li>● Minimum price used for any year when calculating the Olympic average of price is the fixed target price for the House Price Loss Coverage program</li> </ul> </li> </ul>

**SOURCES:**

U.S. House of Representatives, Committee on Agriculture. (Accessed August 3, 2012). H.R. 6083, *Federal Agriculture Reform and Risk Management Act of 2012*, available at <http://thomas.loc.gov/cgi-bin/bdquery/z?d112:h.r.6083>

U.S. Senate. (Accessed August 3, 2012). S. 3240, *Agriculture Reform, Food and Jobs Act of 2012*, available at <http://thomas.loc.gov/cgi-bin/bdquery/z?d112:s.3240>