PUMPED UP:
HOW SUPPLEMENTAL INSURANCE COULD BULK UP FARM SUBSIDIES

ENVIRONMENTAL WORKING GROUP

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About EWG
The mission of the Environmental Working Group (EWG) is to use the power of public information to protect public health and the environment. EWG is a 501(c)(3) non-profit organization, founded in 1993 by Ken Cook and Richard Wiles.

BAIT AND SWITCH ON STEROIDS

BY CRAIG COX
EWG SENIOR VICE PRESIDENT FOR AGRICULTURE AND NATURAL RESOURCES

Supporters of the House and Senate versions of the stalled farm bill are arguing that they represent historic reform because both would replace Direct Payments with a suite of new subsidies designed to cover "losses" too small to be compensated even by the over-generous crop insurance program.

We're told the new proposals are a big step forward because, unlike Direct Payments, they would only pay out when farmers actually experience a loss. Professor Babcock's analysis shows that in the case of the proposed Supplemental Coverage Option (SCO), nothing could be farther from the truth. If SCO is enacted, the reality is that it could send policyholders payments that are far larger than direct payments even when they have suffered no financial loss at all.

Professor's Babcock's calculations show that in 2012 the Supplemental Coverage Option, when combined with the seriously flawed Revenue Protection (RP) type of crop insurance policy, would have sent payments ranging between $172 and $322 per acre to corn growers in Champaign County, Ill.. These payments would have boosted farm revenue in this drought-plagued county to as much as $1,458 per acre – far higher than the $1,136 per acre that these growers would have made with no drought.

SCO, it turns out, would be just another way to send cash to farm businesses regardless of need, but with better optics. And these windfall gains for farmers would have added another $6.8 billion – on top of the $17 billion in crop insurance payouts actually made in 2012, the vast majority of that funded by taxpayers.

Swapping SCO for direct payments is an expensive and cynical game of bait and switch masquerading as reform.

Taxpayers are more than willing to step in to cushion producers from potentially crippling losses caused by widespread natural disasters. This is as it should be. Professor Babcock shows that a simple revenue insurance policy would have put a solid floor under growers in the counties hard hit by the 2012 drought – and ensured that payouts only went to growers who actually needed the help.

Professor Babcock's analysis undercuts any possible rationale for piling SCO or any other so-called "shallow loss" protection on top of the already bloated crop insurance program. Such proposals would simply accelerate the sad transformation of crop insurance from a useful risk management tool to just another taxpayer-financed income support program.

This is not the way to go. Instead, Congress should simply end direct payments and split the savings between deficit reduction and investments in conservation, healthy food, research and other priorities that would provide far greater benefits to all of agriculture – and to taxpayers. But it should not stop there. A truly reform-minded farm bill would go much farther and take on fundamental reform of the entire crop insurance program.

A good first step would be to end premium subsidies for Revenue Protection policies. Better yet, Congress should take steps to transform crop insurance into a safety net that only steps in when growers suffer potentially crippling losses caused by events beyond their control. If Congress were to create such a safety net, Professor Babcock concludes, "Farmers would have a solid floor under their revenue and growers would have far fewer incentives to farm in ways that harm the environment. Moreover, the billions in savings could be split between deficit reduction and investment in other critical programs important to the long-term health of agriculture, the public and the environment."

That would be the kind of reform that farmers need and taxpayers deserve. Unfortunately the farm bills currently under debate take us in the exact opposite direction.

PUMPED UP:

HOW SUPPLEMENTAL INSURANCE COULD SWELL FARM SUBSIDIES

BRUCE BABCOCK, PH.D.
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EXECUTIVE SUMMARY

IF CONGRESS PASSES A VERSION OF THE FARM BILLS PRODUCED BY THE SENATE OR THE HOUSE OF REPRESENTATIVES, IT WILL LIKELY CONTAIN A NEW PROGRAM CALLED THE SUPPLEMENTAL COVERAGE OPTION (SCO). IT WOULD SUPPLEMENT A FARMER'S CROP INSURANCE COVERAGE BY PROVIDING "SHALLOW LOSS" COVERAGE THAT COVERS A PORTION OF THE DEDUCTIBLE ON THE FARMER'S UNDERLYING POLICY. IT IS LIKELY THAT A LARGE PROPORTION OF FARMERS WILL BUY IT BECAUSE THEY WOULD PAY ONLY 35 PERCENT OF THE PREMIUM AND NO ADMINISTRATIVE COSTS OR INSURANCE AGENT COMMISSIONS.

I analyzed how this program would have performed in 2012 if it had been in place during that drought-plagued year. The results are presented in two ways:

(1) an example of crop insurance and supplemental coverage payouts that a typical corn farmer in Champaign County, Ill., would have received, and

(2) estimates of what SCO would have cost taxpayers.

My analysis shows that adding SCO on top of crop insurance would have generated payouts to the Champaign, Ill., grower ranging from $172,000 to $322,000 even if the farmer suffered little or no financial loss because of the drought. Moreover, providing these windfall gains would have swelled the cost of crop insurance program by more than $6.77 billion when SCO was combined with the most expensive and generous crop insurance policies. That is on top of the $17 billion in payouts that actually went out to growers in 2012.

BIGGER WINDFALL GAINS FOR GROWERS

Adding SCO on top of already heavily subsidized crop insurance policies would make it more likely that farm businesses that suffer little or no financial loss would be able to profit from large insurance payouts. The potential for such windfall gains would be largest if the supplemental coverage was added on top of the type of crop insurance policies known as Revenue Protection (RP).

For the Champaign County corn farmer, the combination of Revenue Protection and SCO, together with the income from crop sales, would have pushed total revenue in 2012 to between $1,308 and $1,458 per acre (depending on the level of coverage purchased and the actual crop yield) – far more than the $1,136 per acre the farmer anticipated at planting time. That would give the farmer windfall gains of between $172 and $322 per acre (again, depending on coverage level and crop yield). For a 1,000-acre farm, the worst drought to hit Champaign County in

at least 25 years would have resulted in windfall gains of between $172,000 and $322,000.

Adding SCO to the two other types of crop insurance could also result in windfall gains, but they would be more limited. A Revenue Protection with Harvest Price Exclusion (RPHPE) policy would result in a windfall only if a farmer bought the 80 percent coverage level and suffered only a 25 percent drop in yield. Adding SCO to a Yield Protection (YP) policy would be more likely to generate windfall gains than adding it to a RPHPE policy.

SCO WOULD HAVE GREATLY INCREASED COSTS IN 2012

SCO payouts would differ depending on the type of underlying crop insurance policy. In Indiana and Illinois, the two states hit hardest by the 2012 drought, SCO payouts would have averaged more than $140 per acre if all farmers had combined it with Revenue Protection policies. The payouts would drop by more than half if the underlying coverage was an RPHPE policy, and by about one-fourth if it was a Yield Protection policy.

If SCO had been added to Revenue Protection coverage on all 55 million acres of corn in the analysis, the 2012 crop insurance payouts would have swelled by almost $5.2 billion. Since total payouts from all types of policies for all crops in all counties totaled about $17 billion in 2012, adding SCO payments for corn alone, on only the 57 percent of acres that actually grew corn, could have increased the total payout by 30 percent.

For soybeans, SCO payouts would have totaled $1.3 billion if all farmers in the counties for which there is data had purchased Revenue Protection, $1.07 billion if they had chosen Yield Protection and $390 million if they had bought RPHPE. Because the 2012 drought did not significantly affect many wheat-growing areas, SCO payouts for wheat would have been more modest at between $103 million for Yield Protection and $278 million for Revenue Protection.

Across all three crops, SCO payouts for 2012 would have totaled $6.77 billion for farmers with Revenue Protection, $5.1 billion for those with Yield Protection and $2.5 billion for those with RPHPE, in addition to the $17 billion in actual insurance payouts in 2012.

SCO AMPLIFIES THE FLAWS IN THE CROP INSURANCE PROGRAM

Adding SCO on top of the existing federal crop insurance program would have major drawbacks. The coverage is designed to cover the so-called "shallow losses" growers can encounter as a result of the deductibles in current crop insurance policies. But there is no economic justification – and none has been claimed – for having taxpayers take on even

SCO PAYOUTS WOULD HAVE ADDED $6.77 BILLION TO THE COST OF CROP INSURANCE

	Insured Acres (millions)	Payouts per Acre ($/acre)			Total Payouts ($ Millions)		
Crop		RP	RP-HPE	YP	RP	RP-HPE	YP
Corn	55.0	$94	$33	$71	$5,192	$1,842	$3,932
Soybean	42.27	$31	$9	$25	$1,307	$390	$1,066
Wheat	35	$8	$8	$3	$278	$274	$103

more of the risks of crop production, especially since much of that risk has already been transferred to the public through generous subsidies.

Although this analysis focused on SCO, it also compellingly documents the serious flaws in Revenue Protection policies. The reason that adding SCO to these policies generates such large windfall gains is that when a major drought hits the Corn Belt, market prices rise. The higher prices usually offset most, if not all, of the losses caused by lower yields, but the insurance payouts do not account for the increase. When price moves higher, the revenue guarantees also rise, so that farmers benefit from the higher prices on both their harvested production and on the crop lost to drought. This is why Revenue Protection policies are called the Cadillac of crop insurance.

The higher additional payments can also cover the larger losses that may befall farmers who "forward contract" their crops or hedge on futures markets. Crop insurance subsidies are almost always defended on the grounds that they help ensure that farmers can survive weather events beyond their control. Yet deciding how to market their crop is a management decision entirely within the control of individual farmers. How can it possibly be in the public's interest to subsidize part of the risk associated with forward contracting when all the potential gains accrue to the farmer? As with bank bailouts, subsidized Revenue Protection insurance is an example of using taxpayer dollars to partially socialize losses and privatize gains.[1]

This makes clear that crop insurance and farm programs are essentially income support programs for farmers and the crop insurance industry, not risk management programs. As currently designed, the proposal will increase taxpayer costs and potentially deliver windfall payments to growers who are already well protected – in many cases over-protected – by crop insurance.

1 The losses are only partially socialized because the loss of forward selling a crop before price increases is borne by the farmer for the portion of the crop that is harvested. Taxpayers subsidize the portion of the loss that occurs on planned production that was forward contracted but not produced.

MORE LARGESSE, NOT REAL REFORM

At a time when Congress is desperately trying to shrink the federal deficit, it makes no sense to start a new program that does not solve any problem facing farmers, does not represent an improvement in efficiency and is very likely to deliver windfall payouts. It's still more egregious that these windfall gains to relatively wealthy farmers would be paid for in part by cutting nutrition benefits for poor people.

In a reasonably rational world, one would expect that the major yield losses caused by the 2012 drought, even coupled with large insurance payouts, would have resulted in farmers earning less revenue than they anticipated when they planted the crop. Farming is an inherently risky business, and taxpayers have no obligation to take on all the risk. The safety net should be designed to help farmers recover from what otherwise could be a crippling losses.

This analysis shows just how great the additional cost to taxpayers of adding SCO on top of crop insurance would be. It also shows that the existing federal crop insurance program needs fundamental reform to turn it into the fiscally and socially responsible safety net that most people agree, at least rhetorically, that crop insurance should provide. Adding supplemental coverage takes the program in exactly the opposite direction and exposes the hollowness of the arguments used to justify taxpayer subsidies.

Congress should be moving agriculture away from the heavily subsidized individual coverage plans that are expensive to administer, expensive to subsidize and prone to abuse by farmers and insurance agents. A better alternative would be county-based plans, which can provide fiscally and socially responsible safety net because most of the big risks affect nearly all farmers in a county. Growers could count on having a solid floor under their revenue and would have far fewer incentives to farm in ways that harm the environment. The billions in savings could be split between deficit reduction and investment in other critical programs important to the long-term health

of agriculture, the public and the environment. A county-based insurance plan would also encourage development of a privatized insurance industry that would offer risk protection products that farmers would be willing to buy at full cost, rather than the current products that growers only purchase because taxpayers pay most of the premium.

If Congress insists on adding supplemental coverage to crop insurance, it should be restricted to providing pure revenue insurance coverage only, so that when disaster strikes and payouts are calculated, as in 2012, the benefit of higher prices is given equal weight to the costs of lower yields. Such a simple change would greatly lower the potential for windfall gains.

FULL REPORT

INTRODUCTION

Congress is proposing to end the Direct Payment farm subsidies and use most of the savings to fund a new suite of insurance programs designed to protect growers against so-called "shallow losses" – drops in farm prices, revenue or yield that are too small to trigger compensation from the existing crop insurance program. The proposed programs could pay out to farm operations whenever revenue or yield falls as little as 10 percent below benchmark levels.

The pending House and Senate farm bills include four such programs. The Senate version includes the Agriculture Revenue Coverage (ARC) program, the Supplemental Coverage Option (SCO) and the Stacked Income Protection Plan (STAX). The House bill also includes SCO and STAX but substitutes Revenue Loss Coverage (RLC) for the Senate's ARC program.

The events that would trigger a payout vary, but all the proposals are ostensibly designed to make payments only when a farmer has an actual loss, in contrast to the Direct Payment program, which makes annual fixed payments regardless of farm income or losses. Payments would be made when price, yield or revenue (price times yield) fall below an established benchmark. All of these proposed new programs are either explicitly or implicitly designed to cover part of the deductible – the shallow loss – of an underlying crop insurance policy that covers the "deep losses."

This report focuses on the Supplemental Coverage Option because it has the greatest potential to increase costs and generate large payouts to producers who suffer little or no financial loss. It analyzes how it would have performed if it had been in place during the drought-plagued year of 2012. The results are presented to two ways:

(1) a detailed example of crop insurance and supplemental coverage payments that a corn farmer in Champaign County, Ill. would have received; and

(2) overall estimates of what supplemental coverage would have cost in 2012.

First, however, it makes sense to consider whether this or the other proposed shallow loss programs are needed in the first place, and whether there is any public benefit that justifies asking taxpayers to pick up their costs.

WHY COVER SHALLOW LOSSES?

The conventional justification for a publicly subsidized safety net for farmers is to protect against large, systemic and potentially crippling losses caused by widespread drought, floods or other natural disasters. Private insurance and reinsurance companies are said to be unwilling or unable to accept the large liability risks that would result from an event such as the Corn Belt drought of 2012, although this is a matter of debate.[2]

One significant difference between the Supplemental Coverage Option and the current federal crop insurance programs is that it would trigger payouts only if countywide, not individual, farm revenue falls below the insured level. This would be a positive step, since there are good public policy reasons to move farmers away from overly costly, highly subsidized crop insurance coverage based on individual farm yields.[3]

First, if farmers replace high coverage levels based on individual yields with high levels based on countywide yields, they will not be tempted to generate insurance payouts by changing how they farm. Because the vast majority of farmers cannot affect county yields, county-based programs create no incentive for farmers to farm for the insurance rather than for the market. Second, county-based crop insurance is much easier to administer because there are no claims adjustment expenses, no costs associated with establishing individual yield records, and the cost of verifying planted acreage is already

2 Goodwin, Barry K. We're Not in Kansas Anymore: Is There Any Case for Ag Subsidies? American Enterprise Institute, July 12, 2011.

3 For a discussion of why it might make sense to move to a county-based risk program, see Paulson, N.D. and B.A. Babcock, "Get A GRIP: Should Area Revenue Coverage Be Offered Through the Farm Bill or as a Crop Insurance Program." Journal of Agricultural and Resource Economics, 33(August 2008):137-153.

borne by USDA's Farm Services Agency. Third, county-based insurance covers the types of risks that crop insurance proponents say they want covered – widespread losses caused by excess heat, drought, flooding and unexpected price declines.

The downside of county coverage is that individual farm yields do not always follow county yields. Some farmers will have high yields in a year in which their county has a low yield. These farmers could receive a payment from county coverage even if they did not have a loss. Similarly, the county yield can be high in a year when some famers in the county have low yields. These farmers would not receive a payout from county-based coverage even though they suffered a loss. This lack of precision in compensation is common in programs that are automatically triggered by an index of loss rather than an actual loss. The costs of this imprecision must be weighed against the benefits of lower administration costs and less impact on farmer behavior.

With widespread or systemic risks covered by an easy-to-administer county-based program, more individualized risks, such as hail losses, disease or insect damage or local wind damage could be covered by private crop insurance that would not need to be subsidized by taxpayers.

As currently proposed, however, the Supplemental Coverage Option utterly fails to meet the *large* loss justification for a publicly subsidized safety net. It is designed to reduce the deductible on an underlying crop insurance policy to as little as 10 percent. Guaranteeing 90 percent of a farmer's revenue, mostly at taxpayer expense, would transfer too much risk to the public. At this level of coverage, the program would function more like a government income support program than a true safety net. As this report demonstrates, the proposed supplemental coverage program would also exacerbate all the serious flaws in the most popular revenue guarantee policies. Not only would it fail the test of a true safety net worthy of public subsidy, but it would also create the potential for substantial windfall gains for policyholders when large, systemic losses occur.

HOW THE SUPPLEMENTAL COVERAGE OPTION WOULD WORK

As its name implies, the Supplemental Coverage Option is designed to cover part of the deductible in a farmer's underlying crop insurance policy. Most corn, soybean and wheat farmers currently buy one of three types of insurance. Revenue Protection (RP) is by far the most popular product because it protects against both revenue declines when prices go down and yield declines when prices go up. Revenue Protection with Harvest Price Exclusion (RPHPE) protects against revenue declines only, and Yield Protection (YP) insures against yield declines only.[4]

The coverage level is expressed as a percentage of projected revenue, defined as the product of the insured price, which measures the crop's predicted value at planting time, and the farm's approved yield, which is based on past yields. Coverage is available in five percent increments up to 85 percent. The deductible is the uncovered portion of projected revenue. Thus if a farmer buys 75 percent coverage, the deductible is 25 percent of projected revenue. SCO is designed to cover all but the first 10 percent of a farmer's deductible.

If a farmer buys 75 percent Revenue Protection coverage, SCO would offer the same type of protection for between 75 percent and 90 percent of projected revenue. A farmer who buys 85 percent Yield Protection coverage (resulting in a 15 percent deductible) could obtain a supplemental policy that increases the coverage to 90 percent (a 10 percent deductible). The coverage offered by supplemental insurance would not be exactly equivalent to a farmer's underlying coverage, however, because SCO is based on county yields, not individual farm yields. The crop prices used to determine guarantees and insurance payouts for SCO are the same as prices used for the underlying crop insurance policy.

Payouts from SCO would parallel the farmer's underlying policy. If a farmer buys insurance that pays off if yield declines, for example, then SCO will

4 In addition, some farmers choose to insure their crops using area plans of insurance, which covers against declines in price, revenue or yield.

generate payouts only if the county's average yield declines. But most farmers buy Revenue Protection – the Cadillac of insurance coverage – because it is so heavily subsidized. These policies protect farmers both against drops in revenue when prices drop, and against drops in yield when prices rise. If market prices go up, as they generally do when there are widespread systematic declines in yield, Revenue Protection will generate payouts that are large enough to constitute windfall gains. An SCO policy on top of a Revenue Protection policy would further inflate those windfall gains.

If SCO were a first step towards moving the entire crop insurance program to a county-based system so as to cover only large, systemic losses, it would lead to a big improvement in how taxpayer dollars are spent on crop insurance and on farm subsidies in general. But as currently designed, it is unlikely that this welcome outcome will come about, because supplemental coverage would continue the excessive subsidies that induce farmers to buy Revenue Protection policies that can generate large payments to farmers who have suffered no actual financial loss.

The extent to which SCO would aggravate the flaws in the underlying crop insurance policy is nicely illustrated by calculating what the payouts would have been in the drought year of 2012.

ADDING TO WINDFALL GAINS FOR GROWERS

The prices at which crops would be insured under the Supplemental Coverage Option would be set according to crop insurance rules. In 2012, the insured price for corn, i.e., the value of the corn crop at planting, was set by USDA's Risk Management Agency (RMA) at $5.68 per bushel when farmers selected their crop insurance policies in the spring. The "harvest" price – the price used to determine whether a crop insurance payout would occur – was set at $7.50 per bushel in October 2012. The established harvest price was much higher than the insured price because prices increased through the summer as the drought deepened.

The average price actually received by farmers for their 2012 corn crop was $6.95 per bushel. The $7.50 per bushel harvest price reflected what a corn farmer could have received had the entire crop been sold right at harvest. The slightly lower actual average price reflects the price the crop brought through the year, taking into account the lower price received by farmers who "forward contracted" their crop before prices peaked in the fall.

Table 1 (below) presents the results of a simulation of how SCO and the underlying crop insurance policies would have paid out in 2012 for a corn farmer in Champaign County, Ill. The following parameters were used:

- The farmer's approved yield was assumed to be 200 bushels per acre.
- Actual county average yield in 2012 for Champaign County was 107.3 bushels per acre.
- The Champaign County projected yield was 177.4 bushels per acre.[5]

The three sets of results in Table 1 show how each of the three different types of underlying insurance policies affected the final revenue outcome. Three different actual farm yields (50, 100 and 150 bushels per acre) are combined with three coverage levels in the underlying policy (65, 75 and 85 percent) to produce nine possible outcomes. The insurance payout from both supplemental coverage and the underlying policy are estimated for each outcome. The insurance payments are combined with the revenue generated by selling the harvested bushels at the established harvest price to estimate total revenue. This is compared to the producer's anticipated revenue to determine if the combined insurance payouts result in a loss or gain.

Spring-anticipated revenue is the income the producer expected to receive and equals the insured price times the approved yield. It serves as a logical benchmark. The anticipated revenue for corn for the Champaign County farmer in 2012 was $1,136 per acre ($5.68 per bushel insured price X 200 bushels-per-acre approved yield). Final revenue below this

5 This projected yield was established by RMA as part of their area plans of insurance.

TABLE 1:
SCO PLUS INSURANCE PAYMENTS FOR CHAMPAIGN COUNTY CORN FARM, 2012

		Crop Insurance Payouts				Revenue		
Coverage Level	Actual Farm Yield	Crop Insurance	SCO	Total Payout	Crop Sold	Total	Anticipated in Spring	Loss or Gain
(Percent)	(bu/ac)				($/acre)			
SCO Plus a Revenue Protection (RP) Policy								
65%	50	$600	$333	$933	$375	$1,308	$1,136	$172
75%	50	$750	$200	$950	$375	$1,325	$1,136	$189
85%	50	$900	$67	$967	$375	$1,342	$1,136	$206
65%	100	$225	$333	$558	$750	$1,308	$1,136	$172
75%	100	$375	$200	$575	$750	$1,325	$1,136	$189
85%	100	$525	$67	$592	$750	$1,342	$1,136	$206
65%	150	$0	$333	$333	$1,125	$1,458	$1,136	$322
75%	150	$0	$200	$200	$1,125	$1,325	$1,136	$189
85%	150	$150	$67	$217	$1,125	$1,342	$1,136	$206
SCO plus a Revenue Protection with Harvest Price Exclusion (RP-HPE) Policy								
65%	50	$363	$102	$466	$375	$841	$1,136	-$295
75%	50	$477	$102	$579	$375	$954	$1,136	-$182
85%	50	$591	$50	$641	$375	$1,016	$1,136	-$120
65%	100	$0	$102	$102	$750	$852	$1,136	-$284
75%	100	$102	$102	$204	$750	$954	$1,136	-$182
85%	100	$216	$50	$266	$750	$1,016	$1,136	-$120
65%	150	$0	$102	$102	$1,125	$1,227	$1,136	$91
75%	150	$0	$102	$102	$1,125	$1,227	$1,136	$91
85%	150	$0	$50	$50	$1,125	$1,175	$1,136	$39
SCO plus a Yield Protection (YP) Policy								
65%	50	$454	$252	$706	$375	$1,081	$1,136	-$55
75%	50	$568	$151	$719	$375	$1,094	$1,136	-$42
85%	50	$682	$50	$732	$375	$1,107	$1,136	-$29
65%	100	$170	$252	$422	$750	$1,172	$1,136	$36
75%	100	$284	$151	$435	$750	$1,185	$1,136	$49
85%	100	$398	$50	$448	$750	$1,198	$1,136	$62
65%	150	$0	$252	$252	$1,125	$1,377	$1,136	$241
75%	150	$0	$151	$151	$1,125	$1,276	$1,136	$140
85%	150	$114	$50	$164	$1,125	$1,289	$1,136	$153

amount could, in some sense, be considered a "loss." Final revenue above this amount could be considered a "gain." If the gain was caused by an insurance payout, it's considered a windfall gain because one would not expect insurance payments to raise final revenue above the amount anticipated at planting.

SUPPLEMENTAL COVERAGE PLUS REVENUE PROTECTION CAN PRODUCE WINDFALL GAINS

The first section of Table 1 presents the results if the Champaign County farmer combined supplemental coverage with a Revenue Protection policy. Under that policy, the amount of revenue that triggers a payout increases when the harvest price is greater than the price the crop was insured at before planting, which was the case across the Corn Belt in 2012 as the drought inflated corn prices. In the case of the Champaign County farmer, the drought increased the amount of revenue used to calculate revenue guarantees from $1,136 per acre to $1,500 per acre (200 bushel-per-acre approved yield X $7.50, the higher harvest price). Revenue Protection payments are triggered when revenue falls below the revenue guarantee, which equals the much higher benchmark revenue times the coverage level that the farmer selected at planting time.

To see how this works, consider a Champaign County farmer who signed up for Revenue Protection in the spring of 2012 at an 80 percent coverage level. This farmer's revenue guarantee was 80 percent of spring-anticipated revenue, or $908.80 per acre. The per-acre insurance deductible is calculated by subtracting this revenue guarantee from anticipated revenue, resulting in a deductible of $227.20 per acre, or 20 percent of the anticipated revenue. This is the revenue decline below the spring-anticipated amount that a farmer must absorb before insurance coverage kicks in.

Responding to criticism that crop insurance over-compensated farmers for losses due to the 2012 drought, the industry has argued that "…before farmers received a single dime in crop insurance indemnity payments, farmers shouldered $12.7 billion in losses as part of their crop insurance deductibles…"[6]

That argument would make some sense in the Champaign County example if the farmer really received no insurance payment until revenue declined by $227.20 per acre. But almost all farmers in Champaign County and elsewhere bought Revenue Protection, which increases the revenue guarantee for the farm in the example from $908.80 per acre to $1,200 per acre (80 percent of $1500). This means that instead of absorbing a decline in revenue of $227.20 before insurance coverage began, the insurance coverage kicked in when revenue was $64 above the spring estimate. Rather than shouldering a large loss before coverage began, farmers who bought a Revenue Protection policy at the 80 percent coverage level suffered no loss at all, because the effective deductible on the policy was negative. This is why calling Revenue Protection the "Cadillac" of insurance coverage is entirely appropriate.

To further illustrate this point, the third column of Table 1, labeled Crop Insurance, shows the details of Revenue Protection payments for the three different coverage levels and three different yield amounts. Payments at the 85 percent coverage level plus crop sale revenue would have generated total revenue that exceeded anticipated spring revenue in all cases, despite the drought. A policy at 75 percent coverage plus crop sale revenue would have gotten the farm back to 99 percent of the grower's spring estimate. Even without supplemental coverage, this grower would have experienced essentially no loss at all because of the unique way the Revenue Protection guarantee rose as the drought inflated corn prices.

Simulated supplemental coverage payments are shown in the fourth column, labeled SCO. Because these payments are based on countywide yields, they do not vary with the individual farm's yield, but they do vary with the underlying crop insurance coverage level. As shown, supplemental coverage payments would vary from a high of $333 per acre for a farmer

6 NCIS Responds to Environmental Working Group's Accusations – May 1, 2013.

who chose 65 percent coverage to a low of $67 per acre for a farmer who chose 85 percent coverage. This drop is a direct tradeoff for the increase in payout from the Revenue Protection coverage itself and reflects the design of supplemental coverage, which is supposed to provide payouts that add to those from the underlying policy.

The last three rows show total per-acre revenue that the Champaign County farmer would have received (RP payments + SCO payments + crop sale revenue), the spring-anticipated revenue and the loss or gain. A loss means that total revenue would be less than anticipated; a gain means total revenue would exceed the anticipated amount. The combination of Revenue Protection and SCO would have generated gains in all circumstances, ranging from $172 per acre to $322 per acre. Since farmers typically make their financial plans and bankers lend them money based on anticipated revenue at planting time, the combination of the two types of coverage would have created a windfall for farmers and a delight for their bankers – despite the devastating drought.

The reason for this windfall is that Revenue Protection fails to account for the increase in revenue when the producer sells the actual harvested bushels at drought-inflated market prices. Table 1 shows that the Champaign County farmer would have generated $1,125 per acre – 99 percent of spring benchmark revenue – by selling 150 bushels (75 percent of average yield) at the harvest price. Yet this producer would have still received combined insurance payments ranging between $189 and $322 per acre, depending on the coverage level he or she had selected for the underlying policy. This demonstrates that adding supplemental coverage to Revenue Protection can generate large payments that bear no relationship to actual financial outcomes.

SUPPLEMENTAL COVERAGE OPTION PLUS RPHPE PRODUCES THE FEWEST WINDFALLS

The second set of results in Table 1 shows insurance payments, total farm revenue and final losses or gains if the Champaign County farmer had combined supplemental coverage with a RPHPE policy. This policy provides true revenue protection, because the higher revenue produced by selling crops at the drought-inflated prices is taken into account before calculating whether there should be an insurance payout.

The table shows that crop insurance payouts in this scenario would be far lower than with a Revenue Protection policy because the increase in crop sale revenue is considered when determining whether the grower has actually suffered a loss. This welcome feature applies to the accompanying supplemental coverage as well because SCO parallels the type of underlying coverage a farmer purchases. Table 1 shows that instead of a windfall gain from the drought, this farmer would have had revenue that was between 10 and 25 percent lower than the spring benchmark estimate if yield losses exceeded 50 percent.

If the farmer experienced a smaller 25 percent loss, he or she would have enjoyed a windfall gain of $39 to $91 per acre. In this case, the farmer would have been made more than whole because the farm yield (150 bushels per acre) was much higher than the county yield (107.3 bushels per acre). Supplemental coverage payments would be determined by how much the countywide yield fell below the average. When actual county yield is low, payments would be made regardless of the yield of an individual farm. When individual farm yield was a relatively high 150 bushels per acre despite the drought, there would be a supplemental coverage payout even though the yield loss is relatively small. This additional payout is what pushes this farm from a small loss into a relatively small windfall gain. Economists call the mismatch between farm yield and county yield "yield basis risk," which occurs whenever insurance payments are based on an index of yields or prices rather than on the actual yields or prices the farmer obtained.

The potential for much larger payouts from the combination of Revenue Protection and Supplemental Coverage Option insurance than from the RPHPE/SCO package gives farmers another reason to buy Revenue Protection, because only by buying RP can farmers become eligible for much larger potential supplemental coverage payouts. Of course, farmers would think twice before choosing

Revenue Protection if they had to pay the full incremental cost of that coverage. But taxpayers pay most of the cost of the additional coverage, and taxpayers are slated to pay fully 65 percent of the cost of the Supplemental Coverage Option. If supplemental coverage is included in any new farm bill, the small share of farmers who currently do not buy Revenue Protection will become even smaller.

SUPPLEMENTAL COVERAGE PLUS YIELD PROTECTION CAN ALSO PRODUCE WINDFALL GAINS

The final set of results in Table 1 shows what would have happened if the Champaign County farmer had combined the Supplemental Coverage Option with a Yield Protection policy. The payouts under this combination follow the same pattern as payouts with an SCO/RP package, except that the total payments are lower. This is because Yield Protection payouts, like those for Revenue Protection, do not account for the increased revenue produced when the surviving crop is sold at drought-inflated prices. The only difference between revenue and yield protection is that Yield Protection payments are based on the lower crop value at planting, while Revenue Protection uses the higher crop value at harvest.

Because Yield Protection coverage does not account for the benefit of being able to sell the harvested crop at the higher harvest price, it, too, can lead to windfall gains. In this example the Champaign County farm would have realized a windfall gain from a Yield Protection policy at the 85 percent level if the drought reduced its yield to 150 bushels per acre. The added supplemental coverage payouts would produce windfall profits at all coverage levels if yield fell to 150 bushels per acre, but the size of the windfall payouts would be far less than under a Revenue Protection Policy.

SUPPLEMENTAL COVERAGE WOULD GREATLY INCREASE COSTS

Calculating what the Supplemental Coverage Option would have cost in 2012 is complicated by the large number of combinations of coverage levels and types of underlying insurance. For each of the three insurance types there are eight possible coverage levels, which means that 24 different combinations of coverage level and type of insurance could have been in play.[7] To make these cost calculations more manageable, this analysis assumed that all producers bought crop insurance at the 80 percent coverage level and supplemental coverage at the 90 percent level.

The House and Senate bills would both give USDA's Risk Management Agency the monumental task of developing the Supplemental Coverage Option in time for the 2014 crop year. The agency will have to determine supplemental coverage premiums for all types of underlying insurance and all coverage levels for all counties that have sufficient data and for all major program crops. The agency can jump-start this process by using information already available from existing county-based insurance programs that provide the same type of coverages. In 2012 the three relevant county-based insurance programs were the Group Risk Income Protection-Harvest Revenue Option (GRIP-HRO), Group Risk Income Protection (GRIP) and Group Risk Plan (GRP). It is quite likely that the Risk Management Agency will use the same procedures for determining supplemental coverage guarantee levels and premiums that it currently uses for these three products.

This analysis used data provided by the agency about these three policies (projected yield, projected price, actual yield and actual price) for the counties and crops where they are available to calculate what supplemental coverage would have paid out if it had been available in 2012. To simplify the calculations, only counties for which the agency offers area insurance plans were included, and all farmers were

7 This calculation assumes that RMA will not allow farmers to buy SCO at lower than the 90 percent coverage level discussed in this report.

TABLE 2:
SIMULATED SCO CORN PAYOUTS IN 2012

	Insured Acres	Payouts per Acre ($/acre)			Total State Payouts ($ Millions)		
State	**(Millions)**	**RP**	**RP-HPE**	**YP**	**RP**	**RP-HPE**	**YP**
Illinois	10.3	$143	$65	$108	$1,466	$668	$1,111
Indiana	4.6	$144	$67	$109	$657	$305	$498
Iowa	12.9	$110	$10	$83	$1,420	$129	$1,075
Kentucky	1.1	$128	$89	$97	$143	$100	$108
Michigan	1.8	$43	$11	$33	$76	$19	$58
Minnesota	7.3	$7	$0	$5	$50	$0	$38
Missouri	2.8	$106	$63	$81	$293	$173	$222
Nebraska	4.8	$62	$37	$47	$300	$181	$227
Ohio	3.0	$98	$21	$74	$288	$63	$218
South Dakota	3.2	$67	$33	$50	$215	$107	$163
Tennessee	0.3	$123	$73	$93	$36	$22	$28
Wisconsin	3.0	$82	$25	$62	$246	$76	$186
Total	**55.0**	**$94**	**$33**	**$71**	**$5,192**	**$1,842**	**$3,932**

assumed to have chosen an 80 percent coverage level on one of the three types of underlying policies. Moreover, only the acres of corn, soybeans and wheat insured in 2012 in only those counties in which RMA offered county-based area insurance plans were used. As a result, the analysis covers about 55 million corn acres, 42.2 million soybean acres and 34.6 million wheat acres, representing 57 percent, 55 percent and 64 percent of 2012 planted acres respectively.

It is difficult to determine what proportion of acres farmers would have insured under the Supplemental Coverage Option if it had been offered in 2012. The program would be administered as a crop insurance program, which means that insurance agents would have a financial incentive to sell supplemental policies in addition to the underlying policies. The large premium subsidy would entice many farmers to buy supplemental coverage. In fact, the subsidies would be so large that it is likely that overall participation in the crop insurance program would increase. Even so, our assumption that all farmers who bought crop insurance and who farm in counties where area plans were offered in 2012 likely overstates the actual number of acres that would carry supplemental coverage. But the coverage will likely be offered in many additional counties, which implies that this analysis underestimates the number of acres that would have been enrolled in these additional counties. Per-acre supplemental coverage payouts in 2012 in these additional counties would have been less, on average, than in the counties in the analysis, because it includes the counties hardest hit by the drought.

The Risk Management Agency does not provide information on the amount of irrigated versus non-irrigated acres covered by county-based policies in 2012. Supplemental coverage is supposed to provide

different policies for irrigated and non-irrigated acres where data permits. Planted acreage data provided by USDA's National Agricultural Statistics Service (NASS) were used to compute weighted average supplemental payouts for each county where irrigated and non-irrigated acreage data was available.

Table 2 estimates national aggregate SCO payouts for corn if the program had been available in 2012. The most interesting result is how much these payouts would differ depending on the type of underlying policy. In Indiana and Illinois, the two states hit hardest by the 2012 drought, supplemental coverage payouts would have averaged more than $140 per acre if all farmers had Revenue Protection policies. These calculated payments would drop by more than half if supplemental coverage was combined with RPHPE, and by about one-fourth if it was added to Yield Protection policies. This illustrates that the choice of the underlying crop insurance policy will greatly affect the cost of supplemental coverage in a year like 2012.

Supplemental coverage added to Revenue Protection on all 55 million acres of corn in this analysis would have increased 2012 crop insurance payouts by almost $5.2 billion. Total crop insurance

TABLE 3:
SIMULATED SUPPLEMENTAL COVERAGE OPTION SOYBEAN PAYOUTS IN 2012

	Insured Acres	Payouts per Acre ($/acre)			Total State Payouts ($ Millions)		
State	**(Millions)**	**RP**	**RP-HPE**	**YP**	**RP**	**RP-HPE**	**YP**
Illinois	6.96	$35	$8	$29	$247	$53	$202
Indiana	3.77	$41	$6	$33	$154	$24	$126
Iowa	8.56	$33	$4	$27	$280	$31	$228
Kentucky	0.84	$23	$6	$19	$20	$5	$16
Michigan	1.37	$13	$2	$11	$18	$2	$15
Minnesota	4.83	$2	$0	$2	$9	$0	$7
Missouri	4.28	$58	$25	$47	$248	$107	$203
Nebraska	3.43	$47	$32	$38	$161	$110	$131
North Carolina	0.88	$0	$0	$0	$0	$0	$0
Ohio	3.26	$21	$1	$17	$68	$3	$55
South Carolina	0.26	$0	$0	$0	$0	$0	$0
South Dakota	2.06	$36	$26	$30	$75	$54	$61
Tennessee	0.63	$14	$0	$12	$9	$0	$7
Wisconsin	1.12	$16	$1	$13	$18	$1	$15
Total	**42.27**	**$31**	**$9**	**$25**	**$1,307**	**$390**	**$1,066**

TABLE 4:
SIMULATED SUPPLEMENTAL COVERAGE OPTION WHEAT PAYOUTS IN 2012

	Insured Acres	Payouts per Acre ($/acre)			Total State Payouts ($ Millions)		
State	**(Millions)**	**RP**	**RP-HPE**	**YP**	**RP**	**RP-HPE**	**YP**
Arkansas	0	$9	$9	$4	$3	$3	$1
Colorado	2	$8	$8	$4	$16	$16	$8
Illinois	0	$1	$0	$1	$0	$0	$0
Indiana	0	$12	$12	$12	$1	$1	$1
Kansas	8	$19	$19	$4	$151	$151	$32
Kentucky	0	$57	$57	$26	$10	$10	$5
Maryland	0	$89	$89	$0	$6	$6	$0
Michigan	0	$1	$0	$1	$0	$0	$0
Minnesota	1	$0	$0	$0	$0	$0	$0
Mississippi	0	$18	$18	$0	$2	$2	$0
Missouri	0	$21	$21	$4	$9	$9	$2
Montana	5	$1	$1	$1	$5	$5	$5
Nebraska	1	$3	$3	$3	$4	$4	$4
North Carolina	0	$10	$10	$0	$2	$2	$0
North Dakota	7	$0	$0	$0	$0	$0	$0
Ohio	0	$29	$18	$28	$7	$5	$7
Oklahoma	3	$3	$3	$3	$8	$8	$7
S. Carolina	2	$1	$1	$1	$1	$1	$1
Tennessee	0	$18	$18	$13	$2	$2	$1
Texas	3	$15	$15	$8	$51	$51	$29
Total	**35**	**$8**	**$8**	**$3**	**$278**	**$274**	**$103**

payouts from all types of crop insurance policies for all crops in all counties in 2012 totaled about $17 billion. This means that SCO payments for only one crop, corn, and from only the 57 percent of the acres actually planted with corn in 2012, could have increased total insurance payouts by 30 percent. Supplemental coverage supporters might be tempted to argue that this dramatically increased cost just proves that farmers have a great need for additional risk management tools in high-loss years. But the

example in Table 1 shows that these large added payouts (when supplemental coverage is combined with a Revenue Protection policy) are windfall revenues. The underlying policy alone would have over-compensated growers who sold their crop at high harvest prices. Adding supplemental coverage magnifies all the problems with this already flawed type of policy.

If supplemental coverage payments were calculated by accounting for the value of a higher market price, as they are with RPHPE, then total estimated supplemental payouts for corn would fall by about 65 percent. This drop would be in addition to the decline in insurance payouts that would have occurred had farmers added SCO to an RPHPE policy rather than a Revenue Protection policy.[8]

Tables 3 and 4 show what supplemental payouts would have been in 2012 for soybeans and wheat. Soybean payouts would have been $1.3 billion if all farmers in the counties for which we have data had purchased Revenue Protection, $1.07 billion for Yield Protection, and $390 million for RPHPE. Again, because true revenue losses are the best indicator of financial stress, supplemental coverage payouts for Revenue Protection policies, and to a lesser extent for Yield Protection policies, would have represented windfall profits. Because the 2012 drought did not significantly affect many wheat-growing areas, supplemental coverage payouts for wheat would have been more modest at between $103 million for Yield Protection policies and $278 million for Revenue Protection. Note that supplemental coverage payouts for wheat under both Revenue Protection and RPHPE policies would have been almost the same. The reason for this is that the two types of insurance offer identical coverage when the harvest value is lower than the anticipated crop value at planting time, which happened for winter wheat. Because Kansas is the largest winter wheat producer, most of the supplemental coverage payouts would have gone to that state.

Across the three crops, simulated supplemental coverage payouts for 2012 total $6.77 billion for the SCO/RP combination, $5.1 billion for SCO/YP, and $2.5 billion for SCO/RPHPE. These payouts would be in addition to the $17 billion in crop insurance payouts actually made in 2012. The size of the potential payout from supplemental coverage suggests that participation in the crop insurance program would increase, particularly because a farmer would only have to pay $35 to obtain $100 worth of coverage. The effect on participation as a result of this large premium subsidy is analogous to how many more people would play craps, poker and roulette in a casino if they could buy $100 worth of chips for $35. The incentive to maximize bets with supplemental coverage would likely result in many farmers reducing the amount of traditional crop insurance they purchase in order to increase the amount of supplemental coverage they could buy. Instead of buying 80 percent coverage for traditional crop insurance and adding on 10 percent supplemental coverage, many farmers would be enticed to reduce their traditional crop insurance to 65 or 70 percent coverage, which will increase supplemental coverage to 25 or 20 percent.

POLICY IMPLICATIONS

There would be major drawbacks to adding the Supplemental Coverage Option on top of the existing federal crop insurance program. Supplemental coverage would cover the so-called "shallow losses" that result from the deductibles under current policies. However, there is no economic justification – and none has been asserted – for having taxpayers take on even more of the risk of crop production, given how much risk has already been transferred to the public by crop insurance subsidies. Nor is there is any justification for extending the Cadillac coverage offered by Revenue Protection policies to supplemental coverage, since doing so increases the potential for windfall profits.

At a time when Congress is desperately trying to cut the federal deficit, it does not make sense to start a new program that does not solve any actual problem facing agriculture, does not improve the

8 In a previous paper, I estimated that insurance payments would have dropped by more than $5 billion in 2012 had corn farmers purchase RPHPE instead of RP. See Babcock, B.A. "Taxpayers, Crop Insurance, and the Drought of 2012." Environmental Working Group. April 2013.

efficiency of government programs and is so prone to delivering windfall gains. It is ironic that nutrition payments to relatively poor people who must demonstrate eligibility are being cut in part to pay for SCO, a new program that would make payments to relatively well-off farmers who are not required to meet any eligibility criteria – other than knowing a good deal when they see it.

In a reasonably rational world, one would expect that the major yield losses caused by the 2012 drought, even with large insurance payouts, would have resulted in farm revenue falling below what growers anticipated when they planted their crop. Farming is inevitably a risky business, and a publicly funded safety net should not take on all the risk. The safety net should simply help farmers recover from what otherwise could be a crippling loss. RPHPE by itself would have put a solid floor under farmers' finances by guaranteeing up to 85 percent of the revenue they expected in the spring of 2012.

It is naïve, however, to think that advocates of a farm safety net only want to make sure that farmers have tools to manage their risk. Adding supplemental coverage on top of the already heavily subsidized crop insurance program and extending "Cadillac" Revenue Protection coverage does not provide limited financial assistance. Instead it reinforces the reality that current crop insurance and other farm programs amount to an income support program for farmers and the insurance industry, not programs to provide farmers with the tools they need to manage risk. As currently designed, the Supplemental Coverage Option would increase taxpayer costs and potentially deliver windfall payments to growers who are already well protected, and in many cases over-protected, by the federal crop insurance program.

Although this analysis focused on the Supplemental Coverage Option, it also compellingly documents the serious flaws of Revenue Protection policies. The only possible justification for asking taxpayers to subsidize these policies is that the additional payments can cover marketing losses that accrue when prices go up after a farmer agrees to sell at a lower price. For farmers who forward contract their crop, or who hedge on futures markets, this feature is very attractive, especially when taxpayers pay much of the cost of the additional coverage. But subsidies for Revenue Protection are not limited to these farmers and are so generous that even farmers who don't use forward contracts and futures have found it attractive.

Crop insurance subsidies are almost always defended as helping to make sure that farmers can survive weather events beyond their control. Yet deciding how to market their crop is a management decision entirely *within* their control. How can it possibly be in the public interest to subsidize part of the risk associated with forward contracting when the gains all accrue to the farmer? Much like bank bailouts, subsidized Revenue Protection is another example of using taxpayer dollars to partially socialize losses and privatize gains.[9] And because Congress is set to subsidize 65 percent of the cost of supplemental coverage, it is likely that the large proportion of farmers who currently buy Revenue Protection will also buy this new program.

This report shows just how large those additional costs could be. It also shows that the existing federal crop insurance program needs fundamental reform to make it the fiscally and socially responsible safety net that most agree, at least rhetorically, that crop insurance should be. Adding supplemental coverage on top of crop insurance takes the program in exactly the opposite direction and exposes the hollowness of the arguments used to justify taxpayer subsidies. One simple step that could limit windfall gains would be to not provide revenue protection-type coverage under Supplemental Coverage Option policies. Limiting supplemental coverage to RPHPE-type policies would dramatically lower costs and reduce the likelihood that farmers will make more money when disaster strikes than they do in normal years.

A more ambitious step would be for Congress to move farmers and the crop insurance program away from the heavily subsidized individual coverage

9 The losses are only partially socialized because the loss of forward selling a crop before price increases is borne by the farmer for the portion of the crop that is harvested. Taxpayers subsidize the portion of the loss that occurs on planned production that was forward contracted by not produced.

plans that are expensive to administer, expensive to subsidize and prone to abuse. It is well accepted that county-based plans provide adequate risk protection because most of the big risks affect nearly all farmers in a county. Until the Risk Management Agency dramatically lowered premium subsidies for county-based plans in 2008, large numbers of farmers in the Corn Belt were moving to these insurance plans. Because premium subsidies are a driving force in determining the type of insurance farmers buy, the cut in subsidies reversed this movement.

Limiting taxpayer subsidies to a program that provides revenue insurance coverage at the county level only would save billions each year, automatically provide support during events like the 2012 drought and allow development of a privatized crop insurance industry. A truly private industry would offer the types of risk protection products that farmers would be willing to buy at full cost rather than the current products that they purchase only because taxpayers pay most of the price.

County-level revenue insurance is the type of fiscally and socially responsible safety net that a taxpayer-funded program should provide. Farmers would have a solid floor under their revenue and growers would have far fewer incentives to farm in ways that harm the environment. Moreover, the billions in savings could be split between deficit reduction and investment in other critical programs important to the long-term health of agriculture, the public and the environment.