


Integrating Conservation and Commodity Program Payments: A Look at the Tradeoffs

Roger Claassen
claassen@ers.usda.gov

Marcel Aillery
maillery@ers.usda.gov

- A payment program that integrates characteristics of conservation and commodity programs could simultaneously support working farms and ranches while improving environmental quality, with some tradeoffs.
- If policymakers structure payments to focus on environmental gain, income support benefits would be more broadly distributed across the U.S. agricultural sector.
- If policymakers seek to preserve the existing distribution of commodity program payments within an integrated program, environmental gain would be lower and per unit costs of environmental benefits higher than under a similar program focused on conservation.



Can a single program support farm businesses while encouraging producers to adopt environmentally sound farming practices? That is the question underlying proposals to roll commodity program payments and conservation payments into a single program. This hybrid approach, sometimes referred to as "green payments," would combine the farm income support feature of existing commodity programs with those of conservation incentive payments (see box, "Shades of Green"). Under such an integrated payment program, agricultural producers receiving commodity program payments would also work to improve their environmental performance (and vice versa)—an intuitively appealing quid pro quo.

The challenge of a green payments program is to meld conservation and commodity program payments into a single, workable whole. Commodity payments have a variety of intended goals, such as fostering an abundant supply of food and fiber and supporting and stabilizing farm income. Conservation programs are more narrowly focused on promoting environmentally sound farming practices.



Tim McCabe, NRCS/USDA

Shades of Green

The term “green payment” has had different meanings in different contexts. In this article, a green payment is a payment to agricultural producers that addresses both commodity and conservation objectives. Sometimes, however, the term refers to any agricultural conservation or environmental payment, regardless of its relationship to commodity objectives. Green payments should not be confused with payments made under “green box policies.” Green box policies under World Trade Agreement (WTO) rules include programs that have little or no impact on commodity prices or trade. These policies are given the green light to go forward under WTO rules, and do not necessarily require a link to conservation objectives.

Integrating commodity programs and conservation programs would require revisiting basic questions of program design: Who would be eligible for payments? How large would payments be? And what environmental actions would be required of producers who receive them? The answers to these questions will determine how much environmental gain would be realized and how income support benefits would be distributed across producers.

Although it is tempting to view a merger of commodity and conservation programs as a “win-win” proposition, policymakers would face tradeoffs in attempting to balance commodity and conservation objectives. At one level, the tradeoff is clear: for a given level of payment, the contribution to income declines as the cost of conservation increases. The portion of a payment that compensates agricultural producers for mandatory out-of-pocket costs, lost production, higher risk, and other costs associated with adoption of conservation practices does not contribute to the net income of the farm

or ranch. A more subtle tradeoff may arise if agricultural operations eligible for commodity program payments differ from those that can produce the largest environmental gain per dollar of conservation cost. Policymakers could have to choose between (1) targeting payments to meet commodity objectives while sacrificing some environmental gain, or (2) targeting environmental gain while recognizing the possibility of shifting the distribution of payments away from producers and regions that have traditionally received commodity program support. Currently, recipients of the commodity program payments are largely producers of major field crops—grains, oilseeds, cotton, and rice.

Where You End Depends on Where You Begin

The level of environmental gain and distribution of commodity program payments depends largely on the starting point for program design—either existing commodity programs or conservation programs. Existing compliance provisions require soil conservation on highly

erodible cropland and conservation of existing onfarm wetlands. Producers who fail to comply could lose commodity program payments. Policymakers could require additional conserving practices—such as nutrient management, pest management, and soil conservation on non-highly erodible land—as a condition for future payments. The net income support portion of such a payment would be equal to the total payment, less the costs associated with adopting conservation practices to address compliance requirements.

On the other hand, integrated payments could be viewed as an opportunity to refocus farm policy on environmental performance, or stewardship. Payments could encourage farmers and ranchers to produce environmental “goods and services,” such as clean water and wildlife habitat in the same way that market prices encourage production of traditional agricultural commodities like wheat, corn, or beef. Agricultural producers could do this, with respect to clean water for example, by controlling sediment, nutrient, or pesticide runoff from their operations. Payments could be commensurate with the level of environmental gain or environmental performance. Thus, producers who deliver the largest gain or the best performance, relative to the cost of their



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conservation practices, would receive the highest level of net income support.

An ERS study of green payment program options considered four hypothetical program scenarios (see box, "Defining and Modeling Program Scenarios"). The scenarios were developed for illustrative purposes only, and were not intended to mirror specific proposals. Rather, the scenarios were defined to capture key features of alternative program designs. The analysis is intended to show how program design might affect the environmental cost effec-

tiveness of the program and the distribution of payments.

Getting the Most for Conservation Dollars

Conservation payments are environmentally "cost effective" when they produce the largest possible environmental gain for a given level of spending. Although both environmental performance and compliance scenarios leverage environmental gain, performance scenarios produce much larger environmental

gains for a similar level of conservation expenditure. The differences in environmental cost effectiveness across the four green payment program scenarios are largely a function of three key determinants: the broadness of program requirements that define the pool of possible participants, the effectiveness of payment incentives in encouraging the participation of producers who can deliver large environmental benefits at low cost, and the flexibility that producers have in responding to payment incentives.

Defining and Modeling Program Scenarios

The four scenarios considered in the ERS analysis represent alternative green payment program designs. Two ERS scenarios focus on strengthening the compliance requirements tied to existing commodity programs—*Extended Compliance* and *Modified Compliance*. Under *Extended Compliance*, payments accrue to crop farms eligible for existing commodity programs (about 25 percent of all farms), but require participants to satisfy extended compliance provisions (e.g., soil erosion control on all croplands, plus nutrient and pest management). *Modified Compliance* is similar to *Extended Compliance*, except that producers may opt out of high-cost conserving practices by accepting a reduction in payments commensurate with the reduction in environmental benefits delivered.

The other two program scenarios—*Improved Performance* and *Good Performance*—are similar to current conservation programs in their emphasis on providing environmental benefits. Under the *Improved Performance* scenario, payments are based on the change in environmental performance relative to a producer's current level of stewardship. Improvements in environmental performance are measured by an environmental index, similar to the Environmental Benefits Index (EBI) used to rank proposed contracts for Conservation Reserve Program general signups. EBI points could be obtained for undertaking a wide range of conservation treatments: soil erosion control, nutrient management, pest management, and enhancement of wildlife habitat, among others. Nearly every U.S. farm and ranch would be eligible for a green payment, not just those producing crops targeted by traditional commodity programs (i.e., grains, oilseeds, cotton, and rice).

Good Performance is similar to *Improved Performance*, except that payments are based on a level of environmental performance over and above an established minimum environmental threshold, rather than the change in environmental performance. In contrast to the *Improved Performance* scenario, *Good Performance* would allow producers already operating at a high level of environmental stewardship to receive payments without taking additional action to improve their environmental performance. On the other hand, producers with relatively poor levels of environmental stewardship would have to

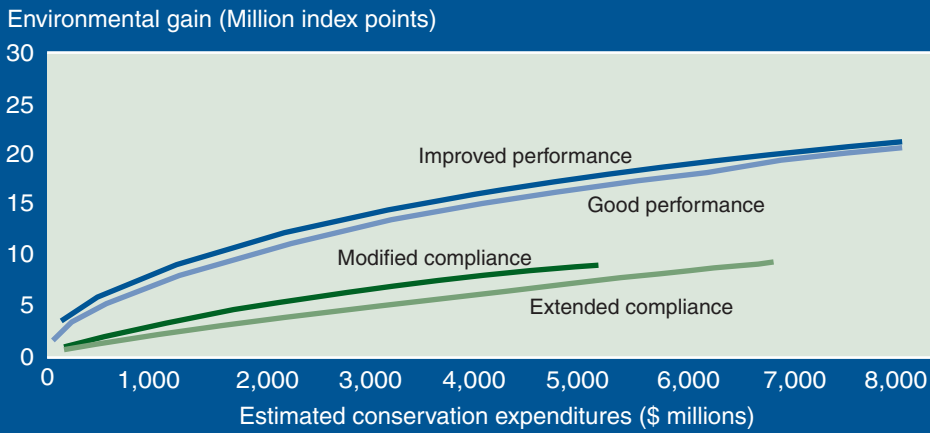
improve performance to reach the threshold before becoming eligible for payments.

These four scenarios were analyzed using data on a nationally representative group of farms derived from USDA's Agricultural Resources Management Survey. Using a simulation modeling framework, ERS assessed how a producer might decide to participate in a green payment program, given the nature and location of the farming operation, program options available, and resource concerns specific to the farm. For each farm, researchers estimated the number of acres where the application of conservation practices would yield environmental benefits, how much environmental gain could be realized, what level of payment the producer could expect for applying those practices, and how much it would cost the producer to apply those practices. It was assumed that agricultural producers would participate in the payment program when the payment offered exceeded the cost of adopting required practices.

In the four scenarios described, the share of program payments representing conservation spending and net income support is not fixed. The allocation of funds between these purposes would arise naturally from producer responses to incentives provided under the voluntary programs. As the model allows for estimating the cost of adopting qualifying practices, payments can be separated into two components: (1) conservation expenditures and (2) net income support—the difference between total payments and conservation expenditures.

In the analysis, each of the four green payment scenarios implicitly allocates a substantial portion of program payments to income support. Depending on the scenario and overall program size, 50 to 90 percent of producer payments represent net income support, as payments generally exceed average costs of conservation practices installed on enrolled acreage. These results also suggest that all four scenarios would result in substantial environmental gain. How much environmental gain is actually realized will depend on how effectively conservation expenditures are used in leveraging environmental gain.

Focus on environmental performance yields large environmental gain, compared with that for compliance scenarios



Source: USDA, Economic Research Service.

The *Improve Performance* scenario is the most environmentally cost-effective alternative, partly because virtually all farms are eligible to participate in the program. Moreover, as payments are proportional to environmental gain, participation incentives are focused on producers who can deliver large gains at low cost; such producers stand to make the largest monetary return on producing environmental benefits. Finally, program applicants are free to select which tracts of land are offered for program enrollment and which resource concerns are addressed on those tracts. Again, given the structure of payment incentives, producers will offer combinations of land and conservation treatments that yield large payments relative to practice adoption costs, thereby maximizing the return on program participation while providing cost-effective environmental gain.

The *Good Performance* scenario is slightly less cost effective in producing environmental gain because payments are structured around an environmental threshold that producers must reach before they qualify for payments. With this approach, producers who have already achieved a relatively high level of environmental performance are rewarded

with payments based on environmental *performance* rather than environmental *gain*. No additional conservation is required to receive payments. At the same time, some producers who could make cost-effective environmental gains may decline to participate because they are required to reach the environmental threshold in order to receive payments.

Extended Compliance is the least environmentally cost-effective scenario. Eligibility is restricted to current commodity program participants, payments are not tied to the potential to deliver environmental gain, and producers are presented

with a take-it-or-leave-it package of environmental requirements. To retain eligibility for income support payments, producers must satisfy all requirements regardless of cost (or environmental benefit). The *Modified Compliance* scenario is more environmentally cost effective than *Extended Compliance* because it allows producers to opt out of some requirements, with a reduction in payment proportional to the loss of environmental gain due to the opt-out. Environmental cost effectiveness is improved because producers are encouraged to drop expensive, low-benefit activities while complying with relatively high-benefit, low-cost requirements. Moreover, because producers are free to focus on cost-effective environmental gains, some producers who would not participate in *Extended Compliance* would probably sign up for *Modified Compliance*.

Scenario Implications for the Distribution of Green Payments

In attempting to merge programs that support farm operations with those that encourage environmentally sound farming and ranching practices, policymakers face tradeoffs. Although each of the green payment program approaches would result in substantial net income support



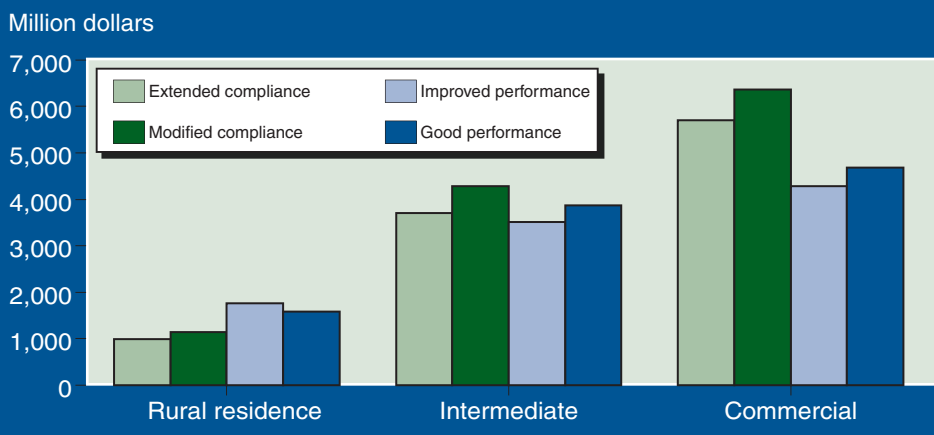
for producers, the four scenarios result in very different *distributions* of income support across agricultural operations. The distribution of payments in the environmental compliance scenarios is similar to that under existing commodity programs. Net income support is different, however, because conservation costs vary across operations. On the other hand, the environmental performance scenarios result in a very different distribution of payments and net income support across farm types, commodity specializations, and regions.

The design features that make the environmental performance scenarios relatively cost effective at producing environmental gains—a broader pool of eligible participants and payments based on environmental performance—also drive the distribution of payments and income support. Under the environmental performance scenarios, smaller payments per farm operation are spread over an increased number of program participants, with a substantial share of payments allocated to producers who are not eligible for current commodity programs. Larger commercial

farms (with gross annual sales of more than \$250,000) continue to capture the largest share of overall payments. However, payments would generally increase for intermediate-sized operations and smaller rural-residence operations. The share of payments to producers of grain crops and cotton decreases, whereas the share to producers of livestock and other crops increases. Beef producers, in particular, would benefit if grazing lands become eligible for environmental performance-based payments. Regionally, payments would shift from the Corn Belt and Plains States, where grain production is concentrated, to areas where livestock and specialty crop production dominate.

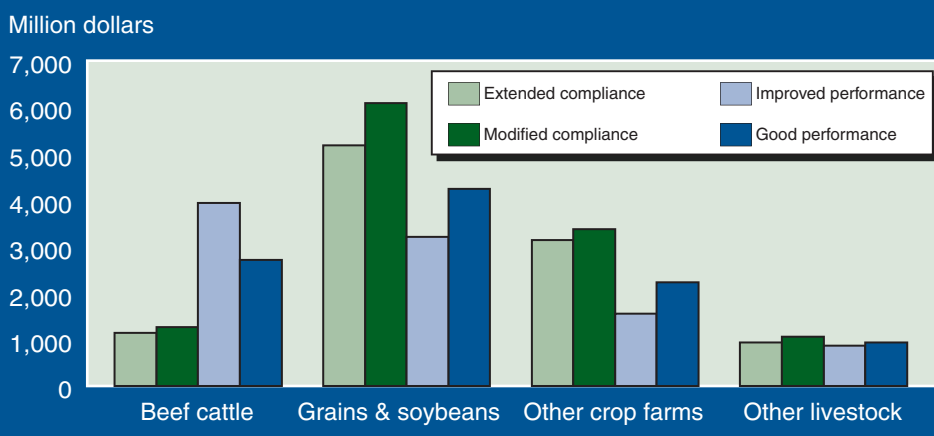
If policymakers intend to refocus farm policy to enhance environmental stewardship, payments based on environmental performance would reallocate net income support across the sector. If policymakers want to maintain income support levels to traditional constituents of commodity programs, a compliance requirement may be a better option, although it will come at the cost of substantially smaller environmental gain. *W*

Large farms still receive the most under environmental performance scenarios, but less than under compliance scenarios



Source: USDA, Economic Research Service.

Green payment scenarios focused on environmental performance would shift payments from crop to livestock producers



Source: USDA, Economic Research Service.

This article is drawn from ...

Integrating Commodity and Conservation Programs: Design Options and Outcomes, by Roger Claassen, Marcel Aillery, and Cynthia Nickerson, ERR-44, USDA, Economic Research Service, November 2007, available at: www.ers.usda.gov/publications/err44/

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