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FEATURE

Cash or credit?
Tax credits and conservation outcomes

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The use of tax policy to encourage conservation of agricultural and environmental resources is not a new idea but gained increased attention in the recently concluded farm bill debate. A new tax deduction is established for taxpayers who take voluntary measures to aid in the recovery of species that are either listed as threatened or endangered under the Endangered Species Act (ESA) or deemed by the Secretary of Interior or Commerce to be in need of protection under the ESA ("qualified species"). The farm bill also exempts retired and disabled individuals from self-employment taxes (the employer and employee shares of Social Security and Medicare taxes) on Conservation Reserve Program (CRP) payments. In addition, it extended for two years the special rule encouraging contributions of conservation easements. The Congressional Joint Tax Committee estimates that these three provisions, collectively, will reduce tax revenues by $1.366 billion over 2008 to 2017.

Conservation tax credits were also part of the 2007/2008 farm bill debate but are not part of the final legislation. If they had survived the final farm bill negotiations, the tax credits would have had a far larger effect on federal revenues and conservation policy. The farm bill initially proposed by the US Senate (in November 2007) included tax credit options for up to $3 billion in annual payments in CRP and up to $1 billion in easement payments in the Wetlands Reserve Program (WRP) and Grasslands Reserve Program (GRP).

If the 2007/2008 debate is a harbinger of the future, the tax code could eventually play a significant role in federal agricultural conservation policy and programs. Although the CRP, WRP, and GRP tax credits were ultimately excluded from the final farm bill, analysis of these proposals yields insight on the potential impact of tax credits as a conduit for conservation payments.

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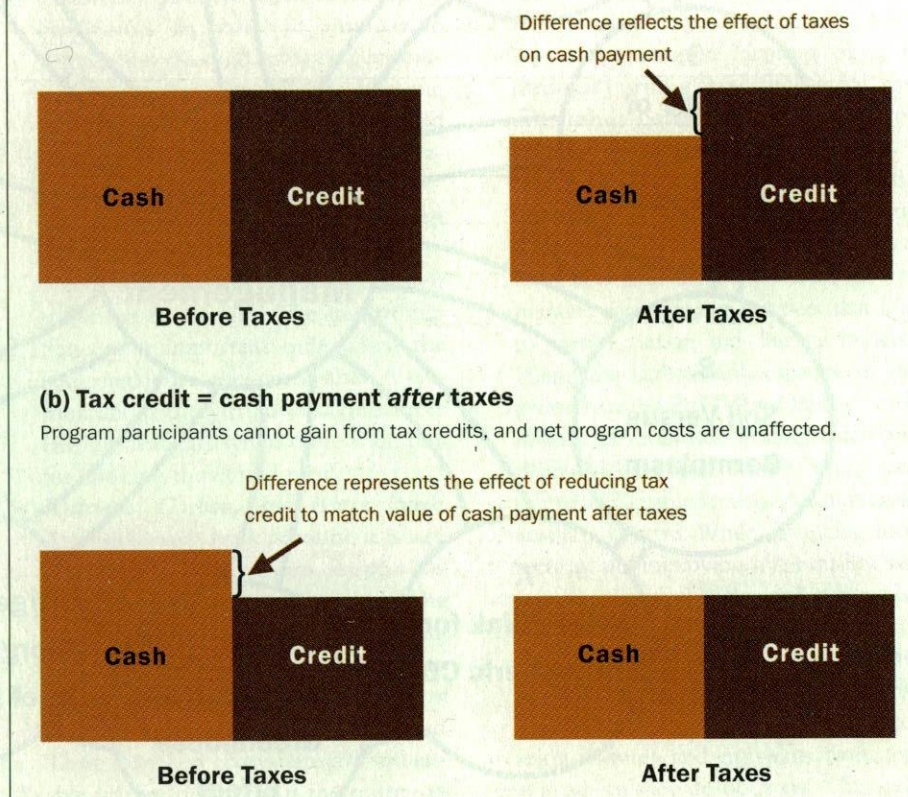
Figure 1

Effect of income and other taxes on the relative value of conservation tax credits.



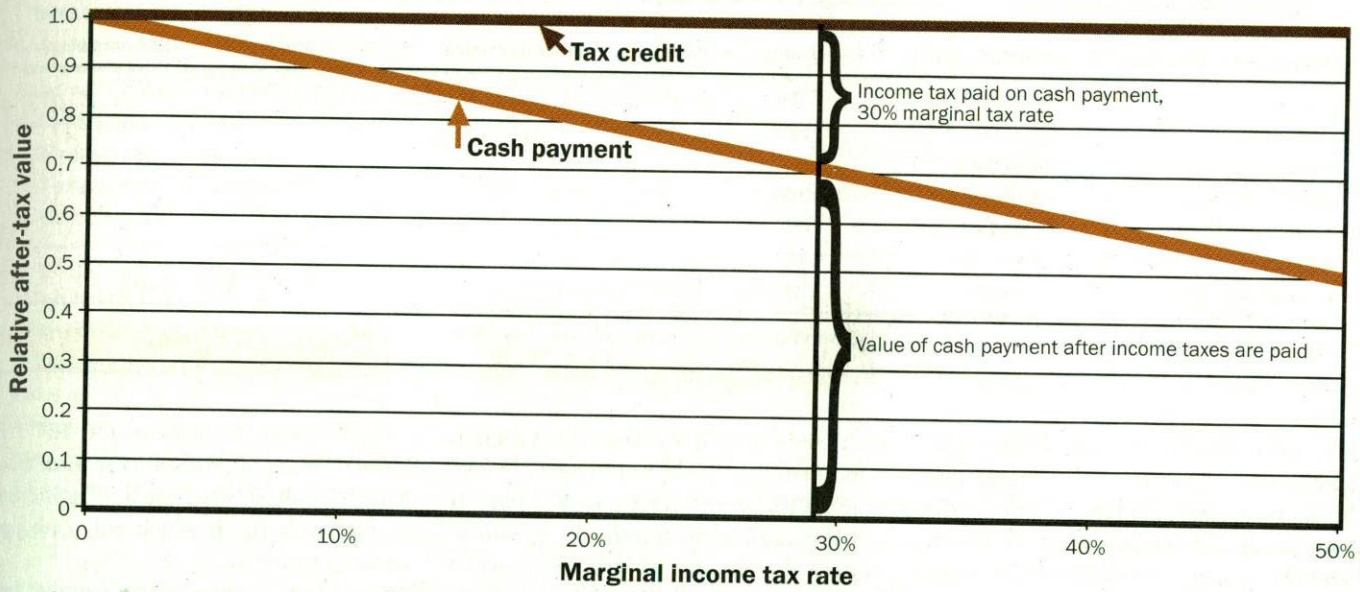
CONSERVATION TAX CREDITS: WHO WOULD BENEFIT?

The tax credits proposed in the Senate farm bill were strictly voluntary—conservation program participants would not have been required to accept them instead of cash payments. A program participant would likely opt for the convenience of a cash payment, unless tax credits provided a greater level of financial assistance. Depending on how tax credits are designed, however, some participants could realize a financial advantage by opting for a tax credit in lieu of a cash payment. These would be the producers most likely to choose a tax credit.

Conservation tax credits differ from cash payments in two ways that are important in determining whether a taxpayer would gain financially from a tax credit option. First, the Senate-proposed tax credits were specifically excluded from farm income for purposes of calculating federal income and self-employment taxes. Cash payments, on the other hand, would be considered income and subject to both income and self-employment taxes. If the tax credit is equal to the cash payment before taxes (e.g., a participant can choose between a $1,000 cash payment and a $1,000 tax credit), then the after-tax value of the tax credit is larger than the after-

Figure 2

Effect of income tax on relative after-tax value of tax credits and cash payments (effects are depicted for cash payments that equal tax credits on a pre-tax basis).



tax value of the cash payment. That's true because the participant must pay income and self-employment taxes on a cash payment but not on a tax credit (figure 1a). If tax credits are designed to be equal to the value of the cash payments after taxes (i.e., the credit offered is reduced by the amount of the tax that would be paid on a cash payment), there would be no additional federal tax savings from opting for a tax credit (figure 1b).

For credits that equal cash payments before taxes, the difference in after-tax value between a cash payment and tax credit will vary across participants because of variations in marginal income tax rates (figure 2). Participants with the highest marginal tax rates gain the most. For some, the value of tax credits could exceed the after-tax value of cash payments by as much as 50%.

The second key difference between cash payments and Senate-proposed conservation tax credits flows from the fact that the credits would not be refundable. Taxpayers who do not have enough tax liability to use available tax credits in one year would have to carry credits forward to future years. (It is important to note that the proposed tax credits could have been applied to income tax owed on all income, including income tax owed on off-farm earnings.) Absent a substantial after-tax advantage, conservation program participants who could not use the entire tax credit in the first year would probably opt for a cash payment. Because of the time value of money (e.g., income that can be earned from investment), tax credits applied in future years are less valuable than cash payments received in the current year. So, an individual's tax liability, relative to the size of the prospective credit, will be an important factor affecting which participants would gain financially from tax credits.

Internal Revenue Service (IRS) tax data for 2004 and 2005 suggest that about 70% of farmers owe some federal income tax and could benefit from a nonrefundable tax credit. However, while the average federal income tax liability for those who owed tax in 2004 was $15,213, over 80% of farmers had income under $50,000 and reported an average income tax liability of $590.

TAX CREDITS WOULD BE A POTENTIAL BOON FOR CRP PARTICIPANTS

Suppose CRP participants are offered tax credits that equal cash payments on a pre-tax basis, as proposed by the Senate. As noted above, participants with sufficient tax liability could realize a higher net payment by opting for a tax credit. The size of CRP payments, relative to the tax liability of individuals involved in agriculture, suggests many existing and future CRP participants could benefit from such a tax credit, even if it is nonrefundable. In CRP, the median rental payment is about $1,600 per year (table 1). Twenty-five percent of CRP participants receive payments of $600 per year or less. A large majority (91%), who account for 50% of the total program expenditures, receive payments of $10,000 per year or less.

To understand the long-term impact of tax credits, we simulated the effect of a tax credit option as if it were offered to all CRP participants who enrolled through a general signup—roughly 35 million ac (14 million ha). The CRP general signup is competitive. Landowners submit offers to retire land for 10 to 15 years and establish permanent cover in exchange for annual payments (roughly equal to the annual agricultural rental value) and cost-sharing for cover establishment. Offers are ranked for acceptance using the Environmental Benefits Index (EBI), which includes fac-

Table 1

Conservation Reserve Program (CRP) payments and participation levels, by size of total CRP payments to individuals, fiscal year 2005.

Total yearly CRP rental payments to individuals	Number of participants	Total annual rental payments (millions)	Percent of total annual rental payments	Total CRP acres	Percent of total CRP acres
Less than $200	42,000	$4	<1%	71,000	<1%
$200 to $600	74,000	$29	2%	470,000	1%
$600 to 1,600	106,000	$111	6%	1,920,000	5%
$1,600 to $4,000	104,000	$268	16%	4,910,000	17%
$4,000 to $10,000	73,000	$452	25%	8,774,000	21%
$10,000 to $25,000	32,000	$482	27%	10,268,000	29%
Greater than $25,000	10,000	$397	23%	9,477,000	26%

Source: USDA Economic Research Service analysis of Farm Service Agency and CRP contract data.

tors representing a range of environmental benefits and the cost of the contract to the government (rental payments and cost-sharing for establishment of cover). Landowners can improve their EBI scores by offering to accept payments that are below a field-specific maximum and by establishing better wildlife cover (e.g., trees are given more index points than grass cover).

As already noted, we analyzed voluntary CRP tax credits that are equal to cash payments on a *pre-tax* rather than an *after-tax* basis, effectively increasing the value of CRP payments to landowners with large enough tax liabilities. Using a model developed by the USDA Economic Research Service and Farm Service Agency (FSA), we estimated which farmland would likely be offered for CRP enrollment (see sidebar). The model estimates return to agricultural production, CRP annual payments (data on CRP rental rates and crop prices provided by FSA), and the likely EBI score. This model, along with estimates of tax liabilities and an assumption that participants choose the tax credit if the after-tax value of the credit is higher than a cash payment, allowed us to estimate outcomes with the tax credit option.

When offered only cash payments at current payment rates, landowners offer an estimated 38.3 million ac (15.5 million ha) for CRP enrollment (table 2). Given a tax credit option, our model estimated that landowners would offer an additional 7.4 million ac (3.0 million ha).

The increased incentive associated with a tax credit option also increases program costs, including the loss of federal tax revenues. Without tax credits, cash payments to CRP participants (on the 35 million ac selected for enrollment) are an estimated $1.95 billion annually. On these cash payments, CRP participants would pay taxes of $324 million for a net government cost, after taxes, of $1.63 billion. With the tax credit option, estimated cash payments drop to $466 million while participants opt for $1.47 billion in tax credits. Tax payments drop to an estimated $27 million for a net government cost, after taxes, of $1.91 billion, which is a 17% increase over the scenario in which only cash payments are offered.

Expected environmental benefits also rise. We estimate changes in expected benefits by calculating the change in the "average benefits score" of enrolled parcels. This average benefits score is an average of the portion of EBI scores that capture the parcel's relative contribution to reducing

Data Used to Model CRP Bidding

Known as the Likely to Bid (LTB) model, our model of Conservation Reserve Program bidding was developed jointly by the USDA Economic Research Service and Farm Service Agency (FSA). Field-specific data on land use and land quality are from the 1997 National Resources Inventory (NRI), collected and maintained by the USDA Natural Resources Conservation Service. CRP eligibility is based on NRI data for cropping history, soil erodibility, location (within a conservation priority area), and other factors. For NRI data points that meet CRP eligibility criteria, the LTB model calculates the FSA Soil Rental Rate, which is the maximum acceptable bid; net return to agricultural production; and, the Environmental Benefits Index score.

In most regions, landowners are assumed to be "interested" in CRP enrollment or "likely to bid" when the Soil Rental Rate is at least 80% of net return to agricultural production. In these regions, it is assumed that producers would be willing to accept a lower return in exchange for risk reduction realized through CRP enrollment. Because CRP annual payments are fixed, they are less risky than returns to agricultural production. In some regions, however, land has significant "option" value—the value of the option to convert land to another use, particularly to housing or commercial development. Land cannot be sold or converted to another use while a CRP contract is in force. To account for lost option value, threshold values are set at 130% and 120% of the Soil Rental Rate in the Northeast and in the Appalachian States regions, respectively.

Table 2

Estimated impacts of tax credits in the Conservation Reserve Program (CRP).

Scenario	Acres offered to to CRP (millions)*	Acres accepted (millions)	Acres taking tax credit (millions)	Cash payments (millions)	Tax credits (millions)	Taxes paid (millions)†	Net cost to government (millions)‡	Average benefits score§
Baseline**	38.3	35	NA	$1,944	NA	$324	$1,630	174
Tax credit option and self-employment tax exemption††	45.7	35	25	$466	$1,466	$27	$1,905	184
Self-employment tax exemption only	38.9	35	NA	$1,938	NA	$305	$1,633	175

* Incorporates 25% county cap on acres that can be enrolled.

† The income and self-employment tax collected from CRP participants. Participants receiving a tax credit pay zero taxes on CRP payments.

‡ Net cost to the government = cash payments + forgone tax revenue – taxes collected on cash payments.

§ The average benefits score is calculated over the portion of the EBI score that reflects estimated environmental benefits (the cost component of the EBI is not included).

** Scenarios assume CRP rental rates, commodity prices, and input costs as of spring 2007. Sixty percent of CRP-eligible landowners make no agricultural profits, hence would not pay self-employment taxes on CRP payments.

†† Assumes that 15% of CRP-eligible landowners are retired or disabled and, therefore, eligible for the self-employment tax exemption.

soil erosion and providing water, air, and wildlife benefits (contract cost is ignored). A tax credit option would increase the overall average benefits score of enrolled parcels by an estimated 6%, from 174 to 184. This suggests that some of the additional land attracted to CRP by higher net returns available through tax credits would also provide higher CRP benefits. However, because a complete, monetary accounting of environmental benefits is not available, we do not know how the 6% increase in the average benefits score compares with the 17% increase in net cost to the government.

A tax credit option may also complicate and increase the cost of program delivery. In CRP, we estimate that 76% of CRP rental payments would be in the form of tax credits ($1.47 billion of $1.93 billion), signifying a large shift in the administration of program payments from the FSA—the agency currently administering CRP—to the IRS. This shift could entail a substantial increase in paperwork, including duplication of some basic functions. The burden of ensuring proper payment through tax credits would fall on IRS even as FSA continues to issue cash payments to producers who do not opt for tax credits.

Our analysis also raises questions about the effect of taxes on prioritization of contract offers for CRP enrollment. The EBI score used to prioritize offers includes a cost factor based on the rental and cost-share payments requested by the landowner. This allows program managers to prioritize parcels on the basis of expected environmental benefit per dollar of payment. When cash payments are made, these payments approximate the government's cost of the rental payments on a pre-tax basis. For participants paying income taxes, however, this method overestimates the after-tax cost of rental payments. For landowners taking a tax credit, the cost factor could underestimate the government cost of rental payments because of income and self-employment taxes that are not collected. If the "after-tax" cost of payments cannot be factored into the EBI, regardless of whether payments are made in cash or tax credits, it could distort the benefit-cost targeting that has been central to the CRP general signup since 1991. To factor these after-tax costs into the EBI, USDA would have to take on the administrative burden of estimating the tax payments of individual landowners.

TAX CREDITS LIKELY A BUST IN EASEMENT PROGRAMS

For WRP and GRP easements, the Senate-proposed tax credits would have had a significantly smaller impact on potential participants and could raise program implementation costs. Unlike CRP, the proposed tax credits for these programs would be equal to cash payments on an *after-tax* basis. So, participants would not have realized an effective increase in the easement payment due to the income tax treatment of the tax credit. Moreover, because many of the easement contract payments are quite large, only a relatively few taxpayers would have sufficient taxable income and tax liability to use the credits in the first year. For most taxpayers, who would have to carry some easement credits forward, nonrefundable tax credits would likely be less attractive than cash payments.

In WRP, for example, the largest conservation easement program, almost all easement payments are so large that only farmland owners with very high income and large federal tax liability could use a tax credit in a single year. Contracts for easements of $50,000 or more account for 94% of WRP easement spending, while 66% of easement spending is in contracts of $250,000 or more and 27% is in contracts of $1 million or more (table 3). A relatively small proportion of farmers and landowners have taxable income and tax liability large enough to use easement tax credits. To use a $50,000 credit in one year, the landowner would need a taxable income of $200,000 or more. Available

Table 3

Wetland Reserve Program (WRP) contracts, easement payments, and acreage by the size of contracts' easement payments, 1994 to 2006.

Range in value of WRP easement payments	Number of WRP easement contracts	Percent of easement contracts	Total easement payments(millions)	Percent of easement payments	Total WRP acres	Percent of WRP acres
Less than $50,000	4,187	47%	$79	6%	342,000	20%
$50,000 to $250,000	3,283	37%	$385	28%	467,000	27%
$250,000 to $500,000	791	9%	$271	20%	295,000	17%
$500,000 to $1,000,000	375	4%	$253	19%	269,000	16%
Over $1,000,000	180	2%	$375	27%	349,000	20%

Source: USDA Economic Research Service analysis of Natural Resources Conservation Service data.

IRS tax data indicate that less than 5% of farm sole proprietors and share-rent landlords reported incomes of $200,000 or more in 2004.

Because the proposed easement credits were to be equivalent to cash payments on an *after-tax* basis, participants requesting a credit would have had to provide tax returns or other documentation to support the amount of the credit. USDA would have to enter, store, and transmit these data to the IRS, increasing administrative costs.

CONCLUSIONS

The impact of tax credits as a conservation program payment mechanism will depend largely on where they are used and how they are structured. For voluntary credits, participants are likely to opt for cash payments, unless tax credits offer greater financial benefit. Tax credits would be popular if they (1) result in income tax savings *in addition to* the value of the tax credit and (2) are small enough to be used in single year.

Can tax credits achieve conservation policy goals that cannot be achieved with cash payments alone? Tax credits could be viewed as a way to increase conservation program payments. In recent years, payment rates for programs like the CRP have not kept pace with rapidly rising prices for corn, wheat, soybeans, and other agricultural commodities. Our analysis of the proposed CRP tax credit shows that tax savings associated with accepting tax credits could have a large effect on contract offers and enrollment, and both overall program costs and program benefits could increase. However, questions about whether the increase in benefits is "worth" the additional cost remain unanswered.

Tax credits could also entail substantial administrative costs. Since the tax credits are optional, USDA would be required to develop procedures for making the election and for providing documentation to the participant and/or IRS. IRS would also need to develop a method to verify eligibility for the tax credit on the participant's income tax return. If tax credits are equal to cash payments on an after-tax basis, USDA would be required to estimate the tax that would be paid on a comparable cash payment. With regard to tax credits that equal cash payments on a pre-tax basis, it may be necessary to develop methods for comparing the government cost of a cash payment against the government cost (including tax savings) for the purpose of determining the EBI cost factor in the CRP.

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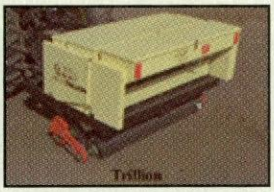

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