

Impacts of Budget Reconciliation on U.S. Crop Producers

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Cutting the federal budget deficit is an objective of the current Administration, as indicated in the President's 2005 Budget (U.S. Department of Agriculture 2005). Thirteen times since 1980 the Congress has used budget reconciliation to cut spending on mandatory programs (US House of Representatives 2005). Authorizing committees can reduce spending on discretionary programs at anytime, but cutting expenditures on mandatory programs requires special legislation. Much of the spending for agriculture and the farm bill is classified as mandatory spending, therefore, a budget reconciliation is required if these programs are to be cut.

The President called for a \$6.96 billion (\$5.7 from commodity programs and \$1.26 from crop insurance) savings in expenditures to agriculture over a five year program (U.S. Congressional Budget Office 2005). A budget reconciliation is required to achieve these budget savings from farm bill authorized expenditures. If the Budget Committees directed the Agriculture Committees to save, say, \$5 billion over five years, the Agriculture committees could achieve the savings a number of ways. For example, the savings could be achieved by reducing expenditures for food and nutrition programs, conservation, or income supports. How the Agriculture Committees decide to achieve a Budget Resolution depends on their perceived impacts of the cuts and the political ramifications.

It is unlikely that all of the budget savings will be in the form of lower income supports to agriculture. However, it is even more unlikely that these support programs will be left uncut. If the Agriculture Committees are required to reduce support payments, should they reduce counter-cyclical payments, direct payments, loan deficiency payments, or all three?

The objective of this paper is to analyze the impacts on the economic viability of U.S. crop producers of alternative methods of reducing federal expenditures on income supports. The consequences of saving \$1, \$2, \$3, \$4, or \$5 billion from spending on income supports for nine program crops over a five year period is analyzed in terms of the impacts on crop farmers economic viability (measured by net cash farm income) and certainty equivalence (CE).

Methodology

Income supports to major program crops are paid as counter-cyclical (CCP), direct (DP), and loan deficiency/marketing loan gain (LDP) payments. Reducing DPs is hypothesized to have a greater negative impact on net cash income and certainty equivalence of net income (CENI) because the DP is a fixed (guaranteed amount) while the other two types of payments are subject to risk (vary with production and/or price). Because LDPs are paid on all production and CCP is paid on a fraction of historical production, a reduction in CCPs may reduce CEIN more than if the budget savings come in the form lower LDPs.

A three step methodology was used to quantify and compare the impacts of reductions in DP, CCP, and LDP on U.S. crop producers. In the first step, a model of the

annual farm program payments to nine major crops as developed in Richardson and Outlaw (2005) is used to determine the target prices, direct payment rates, payment fractions, and loan rates necessary to achieve budget savings targets. The second step in the methodology calls for simulating representative crop farms with the resulting target prices, direct payments rates, payment fractions, and loan rates identified in the first step for each budget savings level. The final step involves calculating and comparing CEIs of the net cash income distributions for each representative crop farm across the policy parameters identified for the different budget savings targets. The resulting CEIs are examined to determine which type of program change, reducing CCPs, DPs, LDPs, or a combination, would be least damaging to the economic viability of U.S. crop producers.

Budget Savings Model

The March 2005 Congressional Budget Office (CBO) Baseline for CCC and FCIC provides a projection of annual CCP, DP, and LDP program payments for feed grains, wheat, rice, upland cotton, soybeans, and peanuts. The CBO Baseline was used to develop a stochastic simulation model that calculates annual payments for these program crops over 2006-2015. The model uses the same stochastic framework as CBO to calculate program payments over the complete range of possible crop prices and weighing these costs by the probability of price falling in the associated range. The model is naive in that it does not allow a production response to changes in target prices, direct payment rates, payment fractions and loan rates. Given that CCPs and DPs are decoupled from production, this assumption is not viewed as a limitation to the model. The lack of a production response to reductions in loan rates is not a significant limitation if the loan rate reductions are small in percentage terms.

Extensions in the current model beyond the model used to develop the CBO Baseline include an update of the probability distributions for prices based on the January 2005 FAPRI Stochastic Baseline and the inclusion of minor feed grains, comprised of sorghum, barley, and oats. These minor feed grains were added to the model using the January 2005 FAPRI Baseline projections of DPs, CCPs, and LDPs for these crops. The CBO Baseline reports total payments to the three minor feed grains. The proportion of payments in FAPRI's Baseline paid annually to each crop was used to apportion CBO's projected payments to the minor feed grains. The mix of payments (CCP, DP, and LDP) to the minor feed grains was estimated using the fraction of payments for these programs in the FAPRI Baseline (Table 1).

An optimal control mechanism (Solver in Microsoft® Excel) was used to estimate price wedges, LDP wedges, and program participation fractions implicit in the CBO Baseline that were not reported. After calibrating the model to the March 2005 CBO Baseline, the difference in total payments (error) for the nine program crops over the 2006 to 2015 period between the two models was \$1.907 billion, or 1.534 percent, on a \$124.3 billion budget forecast.

Five levels of federal budget savings were tested for the current study. The levels of cumulative savings over five years were: \$1, \$2, \$3, \$4, and \$5 billion. The budget

savings model was solved using optimal control techniques for each of these five budget savings assumptions to find the optimal reduction in target prices needed to reach each goal. The model was then solved five times to find the optimal reductions in direct payments to reach the targeted budget savings. The process was repeated to find the payment fractions that would meet the assumed budget savings. Reductions in loan rates that would achieve the assumed budget savings were solved for in the same manner.

The results of the optimal control analysis to set target prices, direct payment rates, payment fractions, and loan rates to achieve certain budget savings are summarized in Table 2. A budget savings of \$1 billion over five years can be achieved by reducing the target prices for all crops by 0.5 percent (Table 2). At the other extreme, a \$5 billion budget savings could likely be achieved by a 2.6 percentage reduction in target price. Reducing the payment rate fraction from 0.85 to 0.80 (or 6.3 percent) would save an estimated \$3 billion. Reducing the payment rate fraction to 0.76 (or 10.5 percent) would save \$5 billion.

Reducing the direct payment rate reduces the DP, but increases the CCP. As a result the direct payment rates for all crops would have to be reduced 35 percent to achieve a \$1 billion net savings (Table 2). The maximum savings which could be obtained through reductions in the direct payment rate is \$1.2 billion and comes from reducing the direct payment rate 64.5 percent. Richardson and Outlaw (2005) pointed out this characteristic of the 2002 farm bill, where decreases in one type of payment lead to larger increases in another type. Using the November 2004 CBO baseline, which had considerably higher projected prices, they found that reducing the loan rate could increase net payments resulting from higher CCPs. Using the March 2005 CBO baseline; however, the results of the model suggest net savings are possible from loan rate reductions. However, reducing loan rates to achieve targeted budget savings does not behave well in an optimal control setting. The results in Table 2 suggest that a 0.6 percent reduction in all loan rates would result in a \$.82 billion net savings, while a 4.9 percent reduction would result in 4.98 billion net savings.

Farm Level Analysis

The target prices, loan rates, direct payment rates, and payment fractions implied by the fractions in Table 2 were used to simulate net cash farm income probability distributions for 16 representative crop farms. The January 2005 FAPRI Baseline was the base situation for the crop farms (FAPRI 2005). Each farm was simulated over the 2006-2010 planning horizon using the policy parameters associated with each level of budget savings (\$1 to \$5 billion).

The 16 crop farms used for the analysis are moderate size feed grain, wheat, cotton, and rice farms in the AFPC data base (Richardson, et al. 2005). Data to define the representative farms were obtained from panel farm interviews with producers in major production regions (Table 3). The farms are assumed to initially all have a 20 percent debt to asset ratio to control for the effects of initial debt situation on the outcomes across crop types and regions. Ten years of historical crop yields for the farms and 10 years of

historical prices were used to estimate multivariate empirical distributions for the farms using the technique described by Richardson, Klose and Gray (2000). The farms were simulated assuming producers do not change their crop mix or planted acres in response to changes in the CCPs, DPs, or LDPs.

The Farm Level and Income Policy Simulation Model (FLIPSIM) was used as the simulation model for the representative farms. FLIPSIM, developed by Richardson and Nixon (1986), has been used to conduct farm level policy analyses for more than 25 years. The model simulates the annual activities of a farm (production, marketing, finance, taxes, machinery replacement, farm program participation, and asset valuation) under alternative farm programs, for a wide variety of farm types and production regions. For the current study, the key output variables from FLIPSIM are: net cash farm income, ending cash reserves, and the probability of declining real ending net worth. Annual net cash farm income for the 2006 to 2010 period is discounted to calculate the present value of net cash income over the planning horizon. Dividing the present value of net cash income by the number of years simulated, results in an average annual net income (PVNCI) in 2005 dollars. The empirical probability distributions of PVNCI from the stochastic simulations are used to rank the alternative policy tools for risk adverse decision makers.

The stochastic efficiency with respect to a function (SERF) procedure reported by Hardaker, et. al. (2004) was used as the risk ranking procedure. The SERF method ranks risky alternatives based on the assumption that decision makers prefer more CENI to less at each risk aversion level. The risky alternatives, different policies for saving \$1 to 5 billion in government payments, are ranked for each of the 16 representative farms over a range of possible risk aversion coefficients (RACs). An advantage of the SERF procedure is that risk rankings are not tied to a single lower and upper RAC, but efficient rankings that are robust over a range of RACs are identified.

Results

The results of the farm level simulation experiments are summarized in Table 4 for four (Iowa feed grains, Texas cotton, Kansas wheat, and Arkansas rice) of the 16 representative farms. The results for the other 12 farms show the same pattern for net cash farm income, ending cash reserves, and probability of a lower real net worth, as observed for the four farms highlighted in Table 4.

In general, the farms are projected to have higher average net cash farm income (NCFI) with a loan rate cut regardless of the level of savings followed by the target price cut, payment fraction reduction, and direct payment cut. The only exception being the 5000 acre Texas cotton farm as NCFI averages the highest over the period with a direct payment cut followed by the loan rate cut, payment fraction reduction, and then target price cut. The results for average ending cash follow the same pattern as NCFI. There is very little difference in the probability losing real equity over the period across farms, regardless of budget savings amount or method used to attain the savings.

The SERF rankings in Table 5 summarize the overall impacts of the alternative budget savings policy options for all 16 farms. There were only 7 of the 16 farms that had the same rankings across all five payment reduction levels. The Iowa, Texas Northern Plains, South Carolina, and Indiana feed grains farms, the Colorado wheat farm, and California and Missouri rice farms all ranked the loan rate cut first, followed by the target price cut, payment fraction reduction, and direct payment cut. Note, the direct payment cut was only included in the rankings for a \$1 billion reduction. The preferred method of reduction changed from a loan rate to a target price cut above a \$2 billion reduction for a group of farms including the Washington, North Dakota, and Kansas wheat farms, and the Texas and Arkansas Rice farms. Of interest is the fact that, while results are only available for a \$1 billion reduction, a direct payment cut was most preferred for the California and Texas cotton, followed by a loan rate cut, target price cut, and payment fraction reduction. The Alabama and Arkansas cotton farms ranked the loan rate cut 1st, direct payment cut 2nd, target price cut 3rd, and payment fraction cut last, given a \$1 billion reduction in spending. At higher spending reduction levels, the preferences were for a loan rate cut, followed by a target price cut and payment fraction reduction.

While a target price cut has been discussed as the easiest (both politically and practically) to carryout, these results indicate that most producers would be less adversely impacted by cuts to loan rates that would achieve the same desired budget savings. While there are some differences among farms as to the 1st or 2nd most preferred method, it is clear that a reduction in the payment fraction would be the least preferred method when looking across all farms and budget savings levels.

These results provide a clear indication of why it is so difficult to develop and/or change farm programs. The 16 representative farms provide geographic and commodity representation across the United States. That less than one-half of the farms preferred one method of cutting over another is a clear indication that it is very hard to obtain a consensus on farm policy.

Summary

The prospects for a budget reconciliation to help reduce the federal budget deficit appear quite good for 2005. As the authorizing committees, the Agriculture Committees will likely be asked how they want to meet their share of the budget reconciliation. Do they want to reduce CCPs, DPs, or LDPs or do they want to reduce other types of mandatory payments, such as conservation, crop insurance subsidies, or food and nutrition programs? Assuming the Agricultural Committees will choose to reduce CCPs, DPs or LDPs for at least a portion of the budget reconciliation, several levels of budget savings were analyzed.

The objective was to determine which payment reduction (CCP, DP, or LDP) would cause the least adverse impact on the economic viability of crop farmers. A stochastic Budget Savings Model that mimics the budget scoring model used by CBO was used to estimate the reductions in target prices, loan rates, direct payment rates, and payment

fractions necessary to achieve designated budget savings (\$1, \$2, \$3, \$4, and \$5 billion) over 2006-2010. The resulting policy scenarios were tested on 16 representative crop farms from the major production regions to quantify their impacts on economic viability.

Results of the Budget Savings Model indicated that the Agriculture Committees could likely save \$3 billion by reducing target prices 1.5 percent, loan rates 3.2 percent, or by reducing the payment fraction from 0.85 to 0.80. Net budget savings of \$3 billion cannot be achieved by reducing the direct payment rate because CCPs increases more than offset DP savings.

The farm level results indicate that the least harmful way for the Agricultural Committees to achieve budget savings of \$3 billion is to reduce loan rates. At higher levels of net budget savings, some risk adverse decision makers would prefer that the Committees reduce target prices.

The results presented in this paper are not based on the same model that CBO will use to score alternative program changes to achieve budget reconciliation. The results here are presented as a forum for discussion. Also the authors recognize the CBO scoring used for the budget reconciliation will differ some for the results presented in this paper.

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Table 1. Baseline Projections of CCP, DP, and LDPs to Nine Program Crops, 2006-2010.

	2006	2007	2008	2009	2010	Sum
	(Millions \$s)					
Cotton DP	622.0	621.8	621.7	621.5	621.4	3,108.4
Cotton CCP	1,188.4	1,005.0	927.7	877.4	851.6	4,850.2
Cotton LDP	563.8	291.8	249.5	189.5	178.9	1,473.5
Cotton	2,374.2	1,918.6	1,798.9	1,688.4	1,651.9	9,432.0
Rice DP	425.5	425.5	425.5	425.5	425.5	2,127.7
Rice CCP	199.9	198.3	176.4	175.8	180.5	930.9
Rice LDP	283.6	279.5	269.8	290.5	301.4	1,424.8
Rice	909.0	903.4	871.6	891.9	907.4	4,483.3
Wheat DP	1,150.0	1,150.0	1,150.0	1,150.0	1,150.0	5,750.0
Wheat CCP	547.0	610.0	603.0	570.0	501.0	2,831.0
Wheat LDP	191.0	212.0	209.0	188.0	149.0	949.0
Wheat	1,888.0	1,972.0	1,962.0	1,908.0	1,800.0	9,530.0
Corn DP	2,095.5	2,095.5	2,095.5	2,095.5	2,095.5	10,477.5
Corn CCP	2,834.5	2,243.2	1,313.9	1,614.4	1,497.6	9,503.6
Corn LDP	3,086.2	2,294.2	1,489.0	1,315.4	1,304.5	9,489.3
Corn	8,016.2	6,632.9	4,898.5	5,025.2	4,897.6	29,470.4
Peanut DP	71.9	71.9	71.9	71.9	71.9	359.7
Peanut CCP	153.9	164.1	161.6	158.9	156.0	794.5
Peanut LDP	27.4	45.8	47.9	49.5	55.9	226.6
Peanut	253.3	281.9	281.5	280.3	283.8	1,380.8
Soybean DP	602.0	602.0	602.0	602.0	602.0	3,010.0
Soybean CCP	340.6	326.1	214.8	300.9	301.0	1,483.4
Soybean LDP	1,216.8	1,069.5	1,063.3	1,136.3	1,175.4	5,661.4
Soybean	2,159.5	1,997.6	1,880.1	2,039.2	2,078.4	10,154.8
Sorghum DP	282.6	247.6	237.5	219.2	218.3	1,205.2
Sorghum CCP	212.7	185.4	118.1	143.7	127.3	787.2
Sorghum LDP	71.0	62.8	47.8	35.1	23.2	239.9
Sorghum	566.3	495.8	403.3	398.0	368.9	2,232.3
Barley DP	118.8	104.6	100.2	92.4	92.1	508.1
Barley CCP	7.9	-	-	-	-	7.9
Barley LDP	42.1	24.8	23.0	21.6	20.6	132.1
Barley	168.8	129.3	123.2	114.0	112.8	648.1
Oats DP	4.4	3.9	3.6	3.2	3.3	18.4
Oats CCP	-	-	-	-	-	-
Oats LDP	3.8	1.2	0.2	-	-	5.2
Oats	8.2	5.1	3.8	3.2	3.3	23.6

Source: CBO March 2005 Baseline for all crops except Sorghum, Barley, and Oats.

Table 2. Reductions in Target Prices, Payment Fractions, Direct Payment Rates, and Loan Rates to Achieve Targeted Budget Savings over Five Years, 2006-2010.

	Budget Savings for Five Years				
	<u>\$1 B.</u>	<u>\$2 B.</u>	<u>\$3 B.</u>	<u>\$4 B.</u>	<u>\$5 B.</u>
Target Prices					
Percentage Reduction (%)	0.5	1.0	1.5	2.0	2.6
Savings (\$B.)	1.00	2.00	3.00	4.00	5.00
Payment Fractions					
Percentage Reduction (%)	2.1	4.2	6.3	8.4	10.5
Savings (\$B.)	1.00	2.00	3.00	4.00	5.00
Direct Payment Rate					
Percentage Reduction (%)	34.7	64.5	100.0		
Savings (\$B.)	1.00	1.20	1.02		
Loan Rate					
Percentage Reduction (%)	0.6	1.3	3.2	4.2	4.9
Savings (\$B.)	0.82	1.82	2.88	4.20	4.98

Table 3. Characteristics of Selected Representative Farms.

	<u>IAG2750</u>	<u>TXNP1750</u>	<u>SCG1500</u>	<u>ING1000</u>	<u>WAW1725</u>	<u>NDW2180</u>	<u>KSCW1385</u>	<u>COW3000</u>	<u>CAC2400</u>	<u>TXEC5000</u>	<u>ARC6000</u>	<u>ALC3000</u>	<u>CAR550</u>	<u>TXR1553</u>	<u>ARHR3000</u>	<u>MOER4500</u>
County	Webster	Moore	Clarendon	Shelby	Whitman	Barnes	Sumner	Washington	Kings	Crosby	Desha	Lawrence	Sutter	Colorado	Lawrence	New Madrid
Total Cropland	2750	1750	1500	1000	1725	2180	1385	3000	2000	5000	6000	3000	550	1553	3000	4500
Acres Owned	380	160	500	250	518	276	485	1137	1000	640	1200	0	275	129	1000	1575
Acres Leased	2370	1590	1000	750	1207	1904	900	1863	1000	4360	4800	3000	275	1424	2000	2925
Assets																
Total (\$1000)	2122	571	886	1739	1316	516	767	1132	5134	1137	6452	1805	1421	522	4130	6408
2004 Gross Receipts																
Total (\$1,000)*	737.7	580.2	511.8	291.3	441.6	341.2	185	262.3	2188.7	1265.8	3886.5	1179.5	448.7	401.5	1294.7	1612.1
2004 Planted Acres**																
Total	2750	1750	1954	1000	1725	2080	1385	2475	2400	5000	6000	3000	500	855	3000	4500
Corn	1375	640	846	500	0	240	0	600	0	0	0	750	0	0	0	1500
Soybeans	1375	0	654	500	0	800	138	0	0	0	1500	150	0	0	1250	1500
Wheat	0	870	454	0	1035	700	928	970	0	400	0	0	0	0	0	0
Sorghum	0	240	0	0	0	0	319	0	0	300	500	0	0	0	0	0
Cotton	0	0	0	0	0	0	0	0	1000	4300	2000	2100	0	0	0	0
Rice	0	0	0	0	0	0	0	0	0	0	2000	0	500	855	1750	1500
Other	0	0	0	0	690	340	0	905	1400	0	0	0	0	0	0	0

Source: Agricultural and Food Policy Center, Texas A&M University.

*Receipts for 2004 are included to indicate the relative importance of each enterprise to the farm. Percents indicate the percentage of the total receipts accounted for by the livestock categories and the crops.

**Acreages for 2004 are included to indicate the relative importance of each enterprise to the farm. Total planted acreage may exceed total cropland available due to double cropping. Percents indicate the percentage of total planted acreage accounted for by the crop.

Table 4. Results of Simulating Four Representative Crop Farms for Alternative Target Prices, Payment Fractions, Direct Payment Rates, and Loan Rates to Achieve Targeted Budget Savings.

	Budget Savings for Five Years				
	<u>\$1 B.</u>	<u>\$2 B.</u>	<u>\$3 B.</u>	<u>\$4 B.</u>	<u>\$5 B.</u>
IAG2750					
Reduce Target Prices					
Mean NCFI (\$1,000)	253.078	251.46	249.783	248.196	246.55
Mean Ending Cash (\$1,000)	288.02	284.13	280.11	276.36	272.54
P(Lower RENW)	1	1	1	1	1
Reduce Payment Fractions					
Mean NCFI (\$1,000)	253.031	251.34	249.65	247.961	246.272
Mean Ending Cash (\$1,000)	287.87	283.77	279.72	275.63	271.61
P(Lower RENW)	1	1	1	1	1
Reduce Direct Payment Rate					
Mean NCFI (\$1,000)	250.036	247.471	245.621		
Mean Ending Cash (\$1,000)	280.58	274.28	269.55		
P(Lower RENW)	1	1	1		
Reduce Loan Rate					
Mean NCFI (\$1,000)	254.071	253.395	251.519	250.521	249.781
Mean Ending Cash (\$1,000)	290.35	288.7	284.1	281.71	279.93
P(Lower RENW)	1	1	1	1	1
TXEC5000					
Reduce Target Prices					
Mean NCFI (\$1,000)	-5.537	-11.372	-17.353	-23.484	-29.622
Mean Ending Cash (\$1,000)	-980.47	-1007.21	-1034.8	-1063.26	-1091.91
P(Lower RENW)	96	96	96	96	96
Reduce Payment Fractions					
Mean NCFI (\$1,000)	-5.414	-11.177	-16.943	-22.712	-28.484
Mean Ending Cash (\$1,000)	-980.16	-1006.82	-1033.65	-1060.61	-1087.71
P(Lower RENW)	96	96	96	96	96
Reduce Direct Payment Rate					
Mean NCFI (\$1,000)	6.695	12.59	20.034		
Mean Ending Cash (\$1,000)	-924.56	-897.66	-863.91		
P(Lower RENW)	94	94	92		
Reduce Loan Rate					
Mean NCFI (\$1,000)	-0.416	-1.268	-3.562	-4.781	-5.559
Mean Ending Cash (\$1,000)	-956.54	-959.99	-969.33	-974.4	-977.58
P(Lower RENW)	95	95	95	95	95

Table 4. Continued

	Budget Savings for Five Years				
	<u>\$1 B.</u>	<u>\$2 B.</u>	<u>\$3 B.</u>	<u>\$4 B.</u>	<u>\$5 B.</u>
KSCW1385					
Reduce Target Prices					
Mean NCFI (\$1,000)	63.624	63.202	62.785	62.381	61.97
Mean Ending Cash (\$1,000)	-37.82	-39.02	-40.21	-41.4	-42.61
P(Lower RENW)	2	2	2	2	2
Reduce Payment Fractions					
Mean NCFI (\$1,000)	63.419	62.805	62.189	61.572	60.956
Mean Ending Cash (\$1,000)	-38.41	-40.17	-41.96	-43.79	-45.56
P(Lower RENW)	2	2	2	2	2
Reduce Direct Payment Rate					
Mean NCFI (\$1,000)	61.617	59.983	58.415		
Mean Ending Cash (\$1,000)	-43.53	-48.51	-53.66		
P(Lower RENW)	2	2	3		
Reduce Loan Rate					
Mean NCFI (\$1,000)	63.743	63.416	62.495	61.995	61.633
Mean Ending Cash (\$1,000)	-37.49	-38.44	-41.08	-42.52	-43.53
P(Lower RENW)	2	2	2	2	2
ARHR3000					
Reduce Target Prices					
Mean NCFI (\$1,000)	100.542	97.566	94.604	91.565	88.562
Mean Ending Cash (\$1,000)	-845.69	-859.25	-872.82	-886.81	-900.7
P(Lower RENW)	1	1	1	1	1
Reduce Payment Fractions					
Mean NCFI (\$1,000)	98.367	93.231	88.089	82.941	77.785
Mean Ending Cash (\$1,000)	-855.18	-878.21	-901.25	-924.45	-947.82
P(Lower RENW)	1	1	1	1	1
Reduce Direct Payment Rate					
Mean NCFI (\$1,000)	87.28	81.751	86.954		
Mean Ending Cash (\$1,000)	-898.77	-922.01	-899.27		
P(Lower RENW)	1	1	1		
Reduce Loan Rate					
Mean NCFI (\$1,000)	101.367	99.05	92.626	89.19	86.843
Mean Ending Cash (\$1,000)	-841.77	-852.15	-881.14	-896.71	-907.4
P(Lower RENW)	1	1	1	1	1

Table 5. Rankings by Risk Averse Decision Makers for Alternative Farm Programs to Produce a Targeted Budget Savings for 16 Representative U.S. Crop Farms 2006-2010.

	Budget Savings for Five Years				
	<u>\$1 B.</u>	<u>\$2 B.</u>	<u>\$3 B.</u>	<u>\$4 B.</u>	<u>\$5 B.</u>
IAG2750					
1st	LR ¹	LR	LR	LR	LR
2nd	TP	TP	TP	TP	TP
3rd	PF	PF	PF	PF	PF
4th	DP				
TXNP1750					
1st	LR	LR	LR	LR	LR
2nd	TP	TP	TP	TP	TP
3rd	PF	PF	PF	PF	PF
4th	DP				
SCG1500					
1st	LR	LR	LR	LR	LR
2nd	TP	TP	TP	TP	TP
3rd	PF	PF	PF	PF	PF
4th	DP				
ING1000					
1st	LR	LR	LR	LR	LR
2nd	TP	TP	TP	TP	TP
3rd	PF	PF	PF	PF	PF
4th	DP				
WAW1725					
1st	LR	LR	TP	TP	TP
2nd	TP	TP	PF	PF	PF
3rd	PF	PF	LR	LR	LR
4th	DP				
NDW2180					
1st	LR	LR	TP	TP	TP
2nd	TP	TP	LR	LR	LR
3rd	PF	PF	PF	PF	PF
4th	DP				
KSCW1385					
1st	LR	LR	TP	TP	TP
2nd	TP	TP	LR	LR	LR
3rd	PF	PF	PF	PF	PF
4th	DP				
COW3000					
1st	LR	LR	LR	LR	LR
2nd	TP	TP	TP	TP	TP
3rd	PF	PF	PF	PF	PF
4th	DP				
CAC2400					
1st	DP	LR	LR	LR	LR
2nd	LR	TP	TP	TP	TP
3rd	TP	PF	PF	PF	PF
4th	PF				
TXEC5000					
1st	DP	LR	LR	LR	LR
2nd	LR	PF	PF	PF	PF
3rd	PF	TP	TP	TP	TP
4th	TP				
ARC6000					
1st	LR	LR	LR	LR	LR
2nd	DP	TP	TP	TP	TP
3rd	TP	PF	PF	PF	PF
4th	PF				
ALC3000					
1st	LR	LR	LR	LR	LR
2nd	DP	TP	TP	TP	TP
3rd	TP	PF	PF	PF	PF
4th	PF				
CAR550					
1st	LR	LR	LR	LR	LR
2nd	TP	TP	TP	TP	TP
3rd	PF	PF	PF	PF	PF
4th	DP				
TXR1553					
1st	LR	LR	TP	TP	TP
2nd	TP	TP	LR	LR	LR
3rd	PF	PF	PF	PF	PF
4th	DP				
ARHR3000					
1st	LR	LR	TP	TP	TP
2nd	TP	TP	LR	LR	LR
3rd	PF	PF	PF	PF	PF
4th	DP				
MOER4500					
1st	LR	LR	LR	LR	LR
2nd	TP	TP	TP	TP	TP
3rd	PF	PF	PF	PF	PF
4th	DP				

¹ TP refers to reduction in target price, PF is a reduction in payment fraction, DP is a reduction in direct payments, and LR is a reduction in loan rates.