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A Comparison Between Senator Harkin's Proposal and the 2007 House Farm Bill

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Senator Harkin released a working proposal for Title 1 of the 2007 farm bill. Under this proposal, the direct payments continue as in the 2002 farm bill, and a revenue-based counter-cyclical program is included similar to the revenue option in the 2007 House bill, but the target revenues are higher than those in the House bill. Table 1 shows both the House bill's target revenue and the Harkin-proposed target revenues. The target revenues for the Harkin proposal are $10 per acre higher for wheat and corn, $25 per acre higher for barley, and $21 per acre higher for the minor oils.

Table 1. Proposed Target Revenue for Harkin's Proposal and the House Bill

	Harkin	House
	--------- Dollars/acre-------	
Wheat	160	150
Corn	354	344
Barley	178	153
Soybeans	231	232
Minor Oils	150	129

The target revenue for the 2008 crop year was calculated by finding the average of 85% of the estimated 2008 cost of production, except for minor oilseeds, because this information was not available. The proposal would require USDA to adjust the national target revenue per acre for each covered commodity for each subsequent crop year by the difference between the estimated variable cost of production for the subsequent year and the variable cost of production for the 2008 crop year.

For each covered commodity, USDA would calculate the national actual revenue per acre (the national average yield times the higher of the national average market price or loan rate). If the national actual revenue is less than the national target revenue, the USDA would calculate a counter-cyclical payment rate. The payment rate would be determined by dividing the difference between the target revenue and the national actual revenue by the national average yield. USDA would pay producers the payment rate times the producers' counter-cyclical payment yield times the payment acres for the covered commodities.

METHOD

The North Dakota Representative Farm Model, which is operational at NDSU, was used to analyze impacts of both the current and the new farm bills on the various representative farms. The model was updated using 2006 data from the North Dakota Farm and Ranch Business Management reports. The model analyzes the effects of the farm policy proposal on net farm income for three different farms: the high-profit, average-profit, and low-profit farms.

A computer software program, "Risk" by Palisades, is use to determine uncertainty associated with future prices and yields, which is calculated based on historical changes in prices and yields. Since future prices and yields are not know with certainty, distributions of possible net farm incomes are used to estimate the impact of the new farm bill on various sizes of farms. Thus, our analysis is based on historical prices, yields, and the variations within those prices and yields. Further information can be obtained from Agricultural Policy Brief No 15, "An Analysis of the U.S. House of Representatives 2007 Farm Bill," published in August 2007.

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RESULTS

Two scenarios were developed to analyze the impact of Senator Harkin's new farm bill. The House scenario uses the revenue-based counter-cyclical program from the House bill, and the Harkin scenario uses the national target revenue levels proposed by Senator Harkin. The two scenarios are the same except for the target levels.

Figure 1 shows the net farm income for the various farms under the two scenarios. Income levels are almost identical throughout the life of the farm bill. Harkin's proposal has slightly higher income levels than the House bill because the target revenue levels are higher. In 2008, net farm income under Harkin's proposal for the high-profit farm is $2,077 higher than that under the House bill. The difference increases to $3,390 by 2016. Net farm income for the average-profit farm is $1,001 higher under Harkin's proposal compared to the House bill and $50 higher for the low-profit farm (Table 2). The standard deviation is slightly less under Harkin's proposal, but the difference is less than 1%.

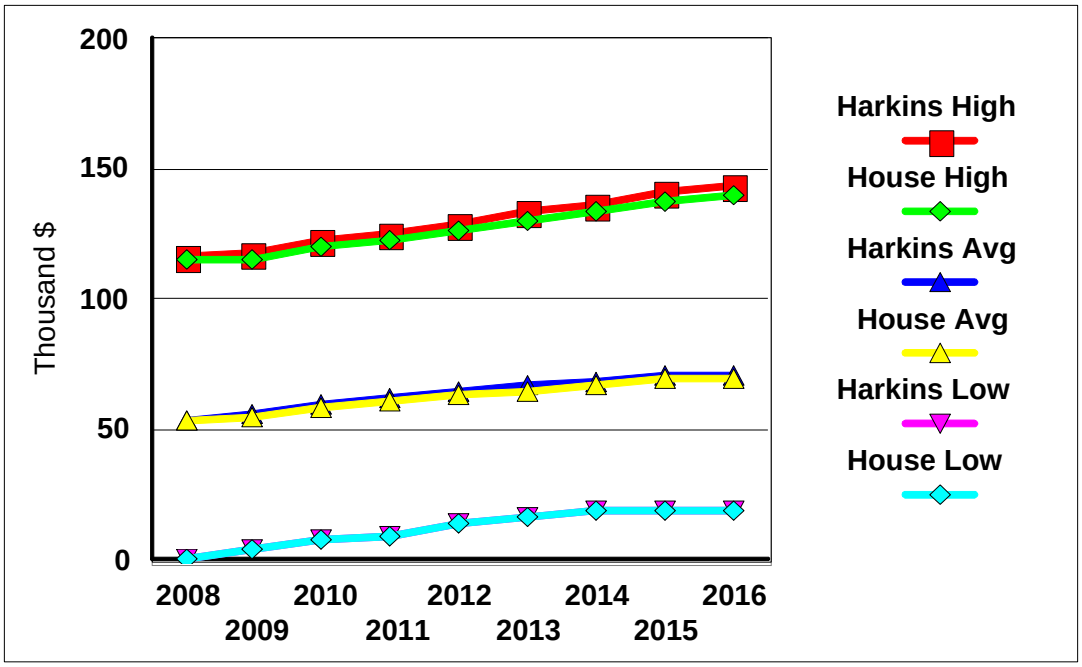

Figure 1. Average Net Farm Income for High-, Average-, and Low-Profit Farms under Senator Harkin's Proposal and the U.S. House Farm Bill

Table 2. Net Farm Income and Standard Deviations for Representative Farms under Senator Harkin's Proposal and the House Bill, Selected Years.

	Harkin's	House	Harkin's	House	Harkin's	House
	High		Average		Low	
	----------Dollars----------					
2008	117,072	114,995	54,205	53,204	510	460
	(75,088)	(75,377)	(43,191)	(43,337)	(29,788)	(29,809)
2012	128,988	126,125	64,698	63,266	14,277	14,110
	(83,940)	(85,384)	(48,521)	(49,188)	(34,251)	(34,064)
2016	143,535	140,145	71,189	69,578	19,199	18,870
	(87,652)	(88,006)	(50,204)	(50,649)	(34,859)	(35,142)

Note: standard deviations in parentheses

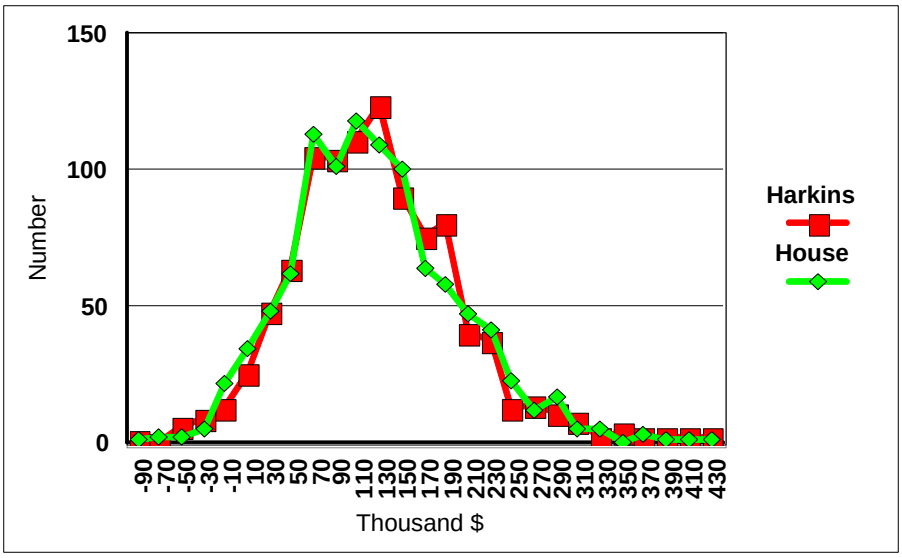

Figure 2. Income Distribution for High-Profit Representative Farm Under Various Scenarios

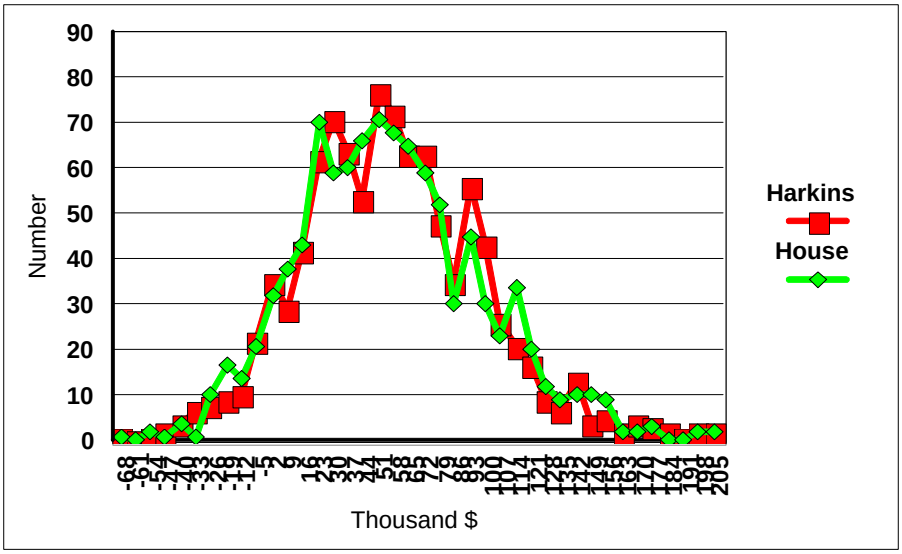

Figure 3. Income Distribution for Average-Profit Representative Farm Under Various Scenarios

Figure 2 shows the net farm income distribution for high-profit farms under the two scenarios. Under the House scenario, net farm income for the high-profit representative farm averages $114,995 in 2008 and increases to $126,125 by 2012. Under Harkin's scenario, net farm income for the high-profit farm is $117,072 in 2008, increasing to $128,988 in 2012.

Figure 3 shows the net farm income distribution for average-profit farms under the two scenarios. Under the House scenario, net farm income for the average-profit representative farm averages $53,204 in 2008 and increases to $63,266 by 2012. Under Harkin's scenario, net farm income for the average-profit farm is $54,205 in 2008, increasing to $64,698 in 2012.

Figure 4 shows the net farm income distribution for low-profit farms under the two scenarios. Under the House scenario, net farm income for the low-profit representative farm averages $460 in 2008 and increases to $14,110 by 2012. Under Harkin's scenario, net farm income for the high-profit farm is $510 in 2008, increasing to $14,277 in 2012.

The average increase in net farm income for all three farms under Harkin's scenario is about 2% compared to the House scenario. The increase is mainly due to higher target revenue levels proposed in this scenario.

Income Distribution

Future yields and prices can not be know with certainty. Therefore, a distribution of yields and prices were developed with known means and estimated standard deviations. Each scenario was run 1,000 times with the distribution of means and standard deviation to estimate distributions of net farm income instead of point estimates. Senator Harkin's farm bill proposal shifts the income distribution to the right, slightly, for all three representative farms (Figures 2, 3, and 4) because of higher revenue payments but maintains similar distributions. In fact, the estimated correlation between the distributions is 0.97, indicating that they are almost identical.

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CONCLUSION

Senator Harkin's proposal will provide slightly more support to agriculture than the House bill because of the higher target revenue levels, but it will not change the distribution of incomes or payments. The distributions indicate that protection from price and yield uncertainty are similar under the two scenarios.

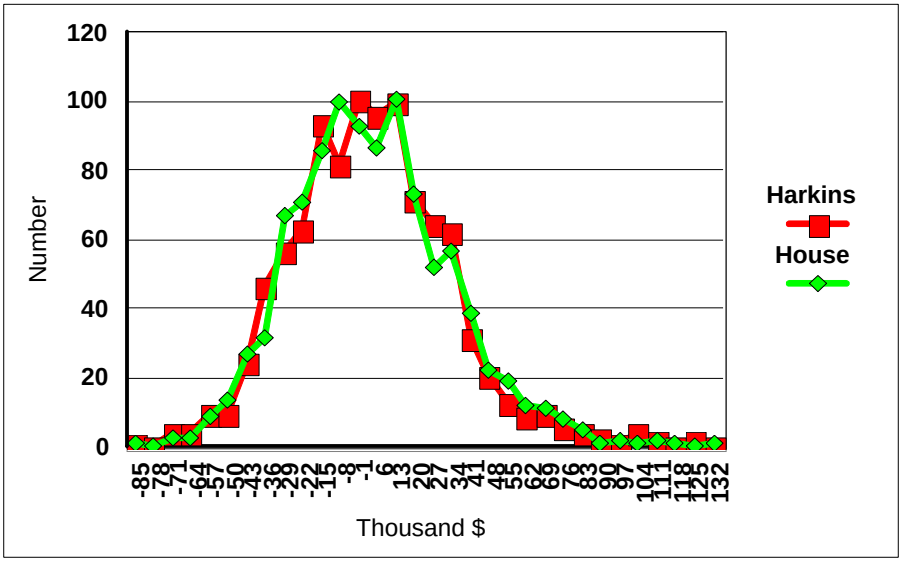

Figure 4. Income Distribution for Low-Profit Representative Farm Under Various Scenarios

Senator Harkin's proposal includes a revenue-based counter-cyclical payment system based on national average yields. As long as the target revenue is calculated on the basis of national average yields, the effects of the revenue-based counter-cyclical program are similar to those from a price-based counter-cyclical program. Calculating target revenue by using county or state average yields could provide better protection than that based on national average yields.