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**Center for Agricultural Policy and Trade Studies  
North Dakota State University**

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**AGRICULTURAL POLICY BRIEF**

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No. 25

September 2012

**Economic Comparison of the Senate  
and House Versions of the 2012 Farm Bill**

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**INTRODUCTION**

The U.S. Congress is in the process of developing a new farm bill for 2012. The U.S. Senate has passed the Agriculture Reform, Food and Jobs Act of 2012, while the U.S. House Agriculture Committee has passed their version of the farm bill, the Federal Agriculture Reform and Risk Management Act. Both versions focus on the protection from the volatile nature of agriculture and repeal direct payments, Counter-cyclical payments, ACRE and SURE programs, which are core programs in the current farm bills. The bills are similar within the major sections of the legislation, however, there are several differences between the Senate bill and the House Bill. First, the Senate Bill provides subsidies at the 80% level, while the House version provides subsidies at the 85% level; secondly, the House bill has a series of reference prices which act as a minimum price level for the determination of payments. Finally, the Senate version provides an option where the producer may base his/her revenue program on individual yields verses county yields. Under the House version the producer has a one-time option of choosing the price loss coverage (PLC) or the revenue loss coverage (RLC). The PLC provides price coverage based on the individual's farm, while the RLC provides revenue coverage based on county yields. The references prices under the House bill are \$5.50/bu for wheat, \$3.70/bu for corn, \$8.40/bu for soybeans and \$20.15/ cwt for oilseeds.

The commodity program in the Senate bill is called the Ag Risk Coverage (ARC). The ARC complements crop insurance to protect against revenue losses stemming from decreases in yield and price. Under both programs, actual yield is compared to a 5 year olympic county average yield. Price protection is based on a 5 month average price which is determined by the U.S. Secretary of Agriculture. Both programs used different names for the base revenue level. For simplicity it is called "typical revenue" in this study. If current production times national price is less than 80% of the typical revenue level for the Senate version and 85% of the typical revenue for the House version, payments are made to producers. Under the Senate version there is an option in which a producer may use farm level yields to determine payments. Under that option, the payment level is 65% of the typical revenue for the Senate version.

This study examines which version provides better protection for North Dakota farmers under both normal price and shallow loss scenarios. The normal price scenario is based on current price levels and the shallow lose scenario is based on price levels which fall 10% from current levels in this study. Both versions are compared to the current farm bill. The option of individual yield

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*\*This empirical analysis was prepared for Senator Conrad and the North Dakota Farmers Union.*

in the Senate version and the PLC in the House version are not analyzed in this study since individual producer's yield data are not available.

## **METHODOLOGY**

The North Dakota Representative Farm Model is used to analyze the economic effects of the two bills on farm income and protection level from risk stemming from market prices and crop yields. The model is a stochastic simulation model designed to analyze changes in farm income under alternative market conditions and farm policies for ND farmers. The model projects average net farm incomes, debt-to-asset ratios, cash rents, and cropland prices for representative farms producing six major crops: wheat, barley, corn, soybeans, canola and sunflowers. The model is linked to the USDA and North Dakota econometric simulation models, and it uses the prices of the crops generated from these models. The base model assumes an average trend yield based on historical data and average predicted prices received by farmers based on the historical relationships between the national prices and North Dakota prices. In addition, macro variables (GDP growth rate and exchange rate), trade policies, and agricultural policies are incorporated into the model. However, this study focuses on the impact of the two farm bill proposals on net farm income.

The model has 24 representative farms: six farms in each of the four regions of North Dakota. These regions are the Red River Valley (RRV), North Central (NC), South Central (SC), and Western (West). The farms in each region are representative of the average, high, and low-profit farms and small, medium, and large-size farms enrolled in the North Dakota Farm and Ranch Business Management Education Program. This study is based on farms under the profit category for state level. The model consists of four components: net farm income, debt-to-asset ratio, land price and cash rent.

The Model uses the software program @Risk for stochastic simulation. All yield variables are assumed to have a normal distribution with the mean value and standard deviation. Likewise, the prices of commodities are assumed to be log-normal distribution. The model is simulated 3,000 times, which allows the output to develop stable means and distribution (see Policy Brief No.22 for details).

All scenarios assume that Federal crop insurance is carried at the 75% level. Federal crop insurance limits the level of payments under both versions of the farm bill.

## **DATA USED FOR THE STUDY**

The North Dakota commodity prices for crops are obtained from the North Dakota Farm and Ranch Business Management Association reports. The 5-year olympic national price was calculated for each crop from the data obtained from the USDA. Variation in commodity prices (the standard deviation) was calculation from national marketing year price for each crop. Those standard deviations were used in the model to estimate potential revenue variations.

Crop yields in each region were obtained from the North Dakota Farm and Ranch Business Management Association reports. The standard deviations of the yields were estimated from the data. Other data needed for the model are obtained from the North Dakota Farm and Ranch Business Management Association (farm record system data).

## RESULTS

The results are shown in Table 1. The average net farm income for the base scenario under both the Senate and House versions is less than under the current farm bill. The reason is that the government payments under either bill are less because direct payments are no longer made. The average government payment under the current farm bill is \$12,939 compared to \$1,737 for the Senate version and \$5,084 for the House version. The maximum government payment under the base scenario is limited to the direct payments under the current farm bill since the counter-cyclical payment level is not triggered. The maximum payment under the base scenario is \$25,073 for the Senate version and \$49,459 for the House version. Based on random draws of crop yields and prices, the probability of the payment being made is 10.0% for the Senate version and 18.2% for the House version. Reference prices under the House version are met about 15% of the time. When the prices drawn by Risk are lower than the reference price the average support is \$0.12/bu for wheat and \$0.06/bu for both corn and soybeans.

Under the Shallow loss scenario, net farm income would be \$184,509 under the current farm bill compared to \$180,777 for the Senate version and \$188,869 for the House version. Average payment for the Senate version is \$8,381 compared to \$16,473 for the House version. The frequency of payments is 26.6% for the Senate and 40.5% for the House version. The average payment support for the reference price under the Shallow loss scenario is \$0.16/bu for wheat, \$0.09/bu for corn, and \$0.12/bu for soybeans. Under the Shallow loss scenario the House version provides higher average payments than the current farm bill.

<b>Table 1. Net Farm Income, Average Payment, Maximum Payment and Frequency of Payments Made Under the Current Farm Bill, and the Senate and House Versions of the 2012 Farm Bill</b>					
	Scenario	Units	Current	Senate	House
Net Farm Income	Base	\$	233,189	222,904	226,251
	Shallow	\$	184,509	180,777	188,869
Average Payment	Base	\$	12,939	1,737	5,084
	Shallow	\$	12,939	8,381	16,473
Maximum Payment	Base	\$	12,939	25,073	49,459
	Shallow	\$	12,939	61,583	85,969
Frequency of Payments	Current	%	100	10.0	18.2
	Shallow	%	100	26.6	40.5

The standard deviation of net farm income, a measure of volatility, is \$80,520 under the current farm bill. It is reduced to \$78,630 for the Senate version and \$74,862 for the House version. The reduced standard deviations indicate that both versions reduce risk stemming from both price and yield more than the current bill.

**Table 2. Average Government Payment Under Various Scenarios by Net Farm**

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Income Levels				
	Base		Shallow loss	
Income Range	Senate	House	Senate	House
Less \$100,000	\$23,492	\$49,459	\$34,710	\$57,853
\$100,000-\$124,999	\$12,951	\$23,748	\$22,788	\$39,434
\$125,000-\$149,999	\$ 5,828	\$20,235	\$15,738	\$32,372
\$150,000-\$174,999	\$ 803	\$11,773	\$ 3,591	\$25,305
\$175,000-\$199,999	\$ 0	\$ 2,234	\$ 126	\$ 7,229
\$200,000-\$224,999	\$ 0	\$ 28	\$ 0	\$ 438

Table 2 presents average support paid to producers under different levels of income. As net farm income increases, government payments decrease because of the counter-cyclical nature of the Senate and House versions. In the base scenario, when net farm income is under \$100,000, payments average \$23,492 under the Senate version and \$49,459 under the House version. With the shallow loss scenario, payments under the Senate version would average \$34,710 compared to \$57,853 under the House version. When net farm income is above \$175,000 for the Senate version and \$200,000 for the House version, payments disappears.

Considering the average net farm income in Table 1 with the payments in Table 2, average North Dakota producers would not receive government commodity payments at current commodity price levels. Even under the shallow loss scenario, a 10% drop in prices, producers would receive a small amount of payments.

### Summary and Implications

Both versions of the 2012 farm bill address the protection from the volatile nature of agriculture. The government payments, which are tied to crop insurance provide support to producers if crop prices and/or yields are low. Unlike the current farm bill, net farm income is not supported by direct payments. With the removal of direct payments, CCP, ACRE and SURE, spending under both versions will likely be less than the current farm bill unless the industry experiences a shallow loss. Crop insurance provides revenue protection as long as the actual revenue is lower than the expected revenue. Since the base price is a 5 year olympic average, producers are protected against short term reductions in price in both versions.

The House version would provide slightly higher support because of the 85% payment level compared to the 80% level in the Senate version. In addition reference prices provide a price floor which would protect producers from long term price declines in the House version, but the Senate version does not have references prices. Both versions provide adequate support for farmers as long as the industry does not experience a long term price decline.

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