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Economic Comparison of the Senate and House Versions of the 2013 Farm Bill

Richard Taylor
Won W. Koo

INTRODUCTION

The U.S Congress is in the process of developing a new farm bill for 2013. The U.S. Senate has passed the Agriculture Reform, Food and Jobs Act of 2013, while the U.S. House has passed a farm bill entitled the Federal Agriculture Reform and Risk Management Act. Both versions focus on protection from the volatile nature of agriculture and repeal direct payments, Counter-cyclical payments, ACRE and SURE programs, which were 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 a revenue band protection between 78% and 88% of the average level while the House version provides a revenue band of protection between 75% and 85%. Second, the House bill has a series of reference prices which act as a minimum level for the determination of government payments while the Senate version is based on a five year Olympic average. 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 Senate bill has an Adverse Market Payment (AMP) provision which provides reference prices (minimum prices) for all commodities. Reference prices are determined with a five year Olympic average of the previous marketing year prices. They provide a minimum price floor in the case of a commodity price collapse. Typical AMP prices are $4.07/bu for wheat, $2.83/bu for corn and $6.19/bu for soybeans. The option of individual yield 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.

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. If current production times national price is less than 88% of a typical

** Research Scientist, and Professor and Director, respectively, in the Center for Agricultural Policy and Trade Studies in Fargo, North Dakota.*

revenue under the Senate version and 85% of a 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 falls 10% from current levels in this study. Both versions are compared to the current farm bill.

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. This study focuses on the differences in net farm income for representative farms under the Senate and House versions of the farm bill. 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 state average net farm income for the average profit farm. 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 that are reported are an average over the 5 year period of the farm bill (2014-2018). 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 mainly because the government payments under either bill do not include direct payments. The average government payment under the current farm bill is $15,250 compared to $5,722 for the Senate version and $3,400 for the House version. The maximum government payment under the base scenario includes only direct payments under the current farm bill since the counter-cyclical payment level has not been triggered. The maximum payment under the base scenario is $98,671 for the Senate version and $95,554 for the House version. Based on random draws of crop yields and prices, the probability of payments being made is 21.1% for the Senate version and 14.5% for the House version. Reference prices under the House version are met about 15% of the time. When the prices drawn randomly 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 $121,410 under the current farm bill compared to $118,471 for the Senate version and $115,642 for the House version. Average payment for the Senate version is $12,417 compared to $9,974 for the House version. The frequency of payments is 41.3% for the Senate and 38.6% 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 both the Senate and House versions provide lower average payments than the current farm bill. The Senate and House versions have risk management tools which provide support when farmers need it from low prices and/or low yields.

The standard deviation of net farm income, a measure of volatility, is $80,186 under the current farm bill. It is reduced to $72,524 for the Senate version and $75,161 for the House version. The reduced standard deviations indicate that both versions reduce risk stemming from both price and yield compared to the current bill.

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 2013 Farm Bill, 2014-2018 Average

	Scenario	Units	Current	Senate	House
Net Farm Income	Base	$	147,593	137,682	135,360
	Shallow	$	121,410	118,471	115,642
Average Payment	Base	$	15,250	5,722	3,400
	Shallow	$	15,250	12,417	9,974
Maximum Payment	Base	$	15,250	98,671	95,554
	Shallow	$	15,250	100,000	100,000
Frequency of Payments	Current	%	100	21.1	16.5
	Shallow	%	100	41.3	38.6

Table 2. Average Government Payments Under Various Scenarios by Net Farm Income Levels, 2014-2018 Average

	Base		Shallow loss	
Income Range	Senate	House	Senate	House
Less $24,999	$88,153	$65,061	$99,831	$87,528
$25,000-$39,999	$38,528	$27,709	$52,881	$49,543
$40,000-$59,999	$ 5,958	$2,094	$15,738	$12,732
$60,000-$79,999	$0	$0	$ 3,591	$2,305
Greater than $80,000	$0	$0	$ 0	$ 0

Table 2 presents average support paid to producers under different levels of net farm 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 $24,999, payments average $88,153 under the Senate version and $65,061 under the House version. With the shallow loss scenario, payments under the Senate version would average $99,831 compared to $87,528 under the House version. When net farm income is between $40,000 and $59,999 support payment are $5,958 for the Senate version and $2,094 for the House version. Payments disappears when income are greater than $60,000. Under the shallow loss scenario payment disappears when income increase above $80,000.

Average net farm income is $138 thousand under the Senate version and $135 thousand under the House version (Table 1). Comparing those incomes 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 not receive payments.

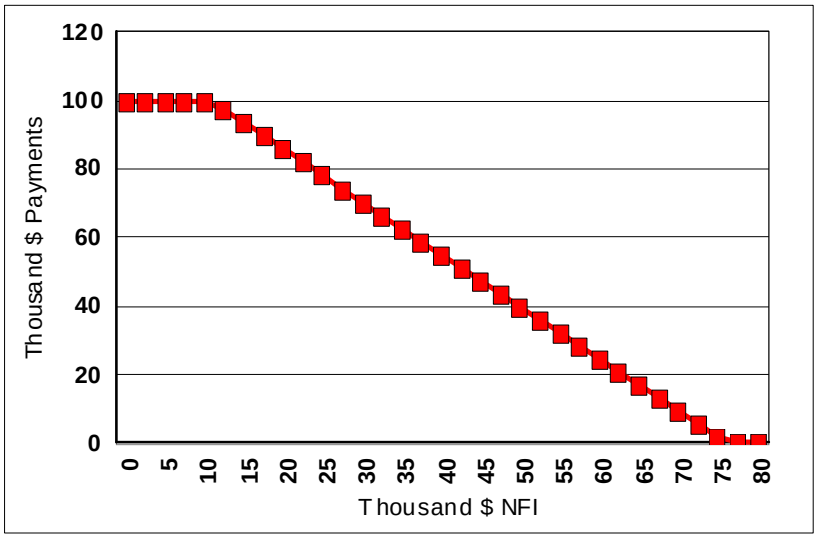

Figure 1. Government Payment Levels Under the Senate Version At Various Net Farm Income Levels.

Figure 1 shows the government payment levels at various net farm income level under the Senate version of the farm bill, the House version is very similar to the Senate version. The net farm income shown in Figure 1 includes government payments. When incomes are below $10,000, government payments are at the maximum permitted by law. When incomes are above $75,000 government payments are zero while government payments reach the maximum level ($100,000, for a couple) as incomes falls to $10,000. This demonstrates the countercyclical nature of the both versions of the 2013 farm bill.

Summary and Implications

Both versions of the 2013 farm bill address the problem of 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.

The Senate version would provide slightly higher support because of the 88% payment level compared to the 85% level in the House version. The payment limit in the Senate bill and the House version, as amended, places very limited restrictions on the payments. Under the Senate bill the maximum payment ($100,000 for a couple) was reached 10 times out of 15,000 observations, during the 5 year life of the farm bill while the House limit was reached only 2 times out of 15,000 observations. 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 appear to reduce government spending while providing adequate support for farmers as long as the industry does not experience a long term price decline.

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