House Agriculture Committee Version of 2012 Farm Bill

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On July 12, 2012, the House Agriculture Committee passed its version of a 2012 farm bill, formally known as H.R. 6083, the Federal Agriculture Reform and Risk Management (FARRM) Act of 2012. The bill has many provisions similar to the farm bill passed by the Senate in June, but also includes some significant differences. It creates several new programs and also eliminates direct payments, counter-cyclical payments, and the ACRE program while largely maintaining the loan program. This brief outlines the important features of the bill as it was reported out of committee and also includes results from preliminary simulation analyses of the payments generated by the proposed legislation. These simulations calculate payments for major crops and account for yield trends, expected future price levels, and the probability of extreme events. Note also that the House bill limits total payments to an individual from the "Commodity Title" (Title I) to $125,000 per year.

Revenue Loss Coverage (RLC)

The Senate bill included as a central component a program known as Ag Risk Coverage, or ARC. The House's FARRM Act contains a similar program entitled Revenue Loss Coverage, or RLC. Like ARC, RLC is a "shallow loss" program. RLC only insures against shortfalls in county-level revenue, and a producer can elect RLC on a crop-by-crop basis for the life of the farm bill (cotton is not eligible for RLC). The revenue guarantee is 85% of the average benchmark revenue and a payment cannot be larger than 10% of the benchmark revenue. The benchmark revenue equals the product of the preceding 5-year Olympic average of county yield and the 5-year Olympic average of the national marketing year average (MYA) price. However, the FARRM Act includes a set of reference prices which are substituted for any year where the MYA price is lower than the reference price. Payments are triggered when the actual county revenue falls below 85% of the benchmark revenue. Actual revenue equals the product of the actual county yield and the average of the MYA price for the first 5 months of the marketing year or the loan rate, whichever is higher. RLC payments are made on 85% of planted acres.

Price Loss Coverage (PLC)

Perhaps the biggest difference in the FARRM Act from the Senate bill is the option to choose the Price Loss Coverage (PLC) program as an alternative to RLC (again, cotton is not eligible for PLC). The PLC program, as its name implies, is basically a "target price" program. PLC payments are triggered when the "effective price" for a commodity—the average of the MYA price for the first 5 months of the marketing year or the loan rate, whichever is higher—is less than the "reference price" specified in the legislation. The payment rate equals the difference between the reference price and the effective price multiplied by the yield established under the counter-cyclical program of the 2008 program. PLC payments are made on 85% of planted acres. In addition, producers participating in PLC have the option of updating their payment yields. The payment yields for a crop may be updated to equal 90% of the average planted acre yield for 2008-2012.

Stacked Income Protection Plan (STAX)

The FARRM Act creates the Stacked Income Protection Plan or STAX specifically for producers of upland cotton in lieu of

PLC or RLC. The STAX program created in the House bill is identical to the Senate version except it includes a reference price. STAX, basically a modified version of the existing USDA-Risk Management Agency (RMA) crop insurance program Group Risk Income Protection (GRIP), uses county-level instead of farm-level measures to protect against shallow losses in the ranges of 10 to 30% of expected county revenue. The deductible cannot be less than 10% of expected county revenue. The program uses the higher of the expected price established under the existing GRIP program or $0.6861 per pound to calculate expected revenue. STAX computes expected revenue by multiplying this price by the higher of expected county yield under an existing area insurance plan (most likely GRIP) or a 5-year Olympic average of county yields. STAX is paid on planted acres. In our simulations that follow, the calculations assume payments are triggered by shortfalls in county revenue, the revenue guarantee equals 90%, and the payment range is up to 20%; i.e., additional program payments cease when losses fall below 70% of the guarantee. STAX also includes a premium; however, as written in the bill this premium is 80% subsidized. No payment limits are included under STAX, however. In addition, producers participating in STAX cannot participate in the Supplemental Coverage Option (SCO) discussed below.

Supplemental Coverage Option
The Supplemental Coverage Option or SCO is a program included in the crop insurance title of both the House and Senate farm bills and is basically identical in both versions. SCO essentially provides coverage for the deductible amount of a producer's insurance policy using an area-based yield or revenue policy. SCO is yield- or revenue-based depending on whether a producer's underlying individual coverage is yield- or revenue-based. Coverage begins when the county average yield or revenue falls below 90% of its expected level. The coverage ceases (payments reach a maximum) when the county average yield or revenue (as a percentage of its expected value) falls to the coverage level of the producer's individual policy. For example, for a producer who purchases a 65% Yield Protection crop insurance policy and participates in SCO, if the county average yield falls to 65% of its expected level or less, the producer receives the maximum SCO payment, which equals 90% of the value of the deductible of the Yield Protection policy. SCO is designed as an optional endorsement to a producer's existing crop insurance policy and therefore requires payment of a premium.[1] SCO does not include any payment limits.

Examples
The following tables provide illustrations for how the proposed programs discussed above function. Table 1 describes the STAX program using data for Washington County, Mississippi, for cotton. The examples use data for the last three crop years available, 2008-2010. One feature noticeable about STAX is the use of terminology similar to crop insurance, such as "projected price" and "indemnity." Since the focus is on the mechanics of calculating an indemnity, this example does not consider STAX premiums. The largest indemnity occurs in 2008 because the largest price shortfall, the difference between the realized price (line 7) and the projected price (line 1), occurs in 2008, resulting in a relatively large shortfall in revenue. In contrast, in 2009 the yield is well below the expectation but the futures price used to calculate realized revenue is actually higher than the projected price at planting, which results in a realized revenue closer to the reference revenue and a smaller indemnity. In 2010, both the yield and futures price are well above their expectations, resulting in much higher realized revenue compared to the reference revenue. Again, the only difference between this example of STAX for the House bill and the Senate bill is the inclusion of the Reference Price of $0.6861 in Row 2.

Table 2 illustrates a revenue-triggered SCO program for corn in Yazoo County, Mississippi, again using 2008-10 data. As with STAX, SCO is based on shortfalls in area revenue. However, the SCO payment only triggers when the actual county revenue falls below 90% and reaches a maximum once the actual county revenue falls to 70% of the expected county revenue or less. Thus, in Table 2 SCO payments trigger for the 2008 and 2009 data because actual revenue is less than

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[1] Programs with premiums such as STAX, SCO, and crop insurance include an Administrative & Operating charge payable to the private insurance company that sold the policy, generally equal to around 20% of premiums.

90% of expected revenue in each of these years. In both years actual revenue falls below expected revenue because of declines in *both* actual yields and prices relative to their expected levels. However, a large enough decrease in either variable could result in a payment. No SCO payment is triggered in 2010 because actual revenue is greater than 90% of expected revenue. As in the previous STAX example, SCO premiums are not considered in this illustration. This example is also identical under the Senate bill.

Table 1. STAX illustration for cotton in Washington County, Mississippi.

Row	Value/calculation	2008	2009	2010
1	Projected price (1/15-2/14 Average for Nov rice contract)	$0.79	$0.52	$0.72
2	Reference price	$0.6861	$0.6861	$0.6861
3	Expected area-wide yield per planted acre (CWT; higher of trend yield or 5-year moving average)	926.1	889.2	847.2
4	Area-wide projected revenue per acre (higher of 1 & 2 × 3)	$734.58	$610.08	$613.03
5	Protection factor (values range from 0.80 to 1.20)	1.20	1.20	1.20
6	Maximum protection per acre (4 × 5)	$881.50	$732.10	$735.64
7	October average of November rice futures price	$0.51	$0.66	$1.12
8	Area-wide reference revenue per acre (higher of (1,2,7) × 3	$734.58	$610.08	$951.66
9	90% of reference revenue per acre (90% of 8)	$661.12	$549.07	$856.49
10	Actual area-wide yield per planted acre (lbs.)	797.4	670.1	1,027.90
11	Area-wide realized revenue per acre (7 × 10)	$403.25	$439.79	$1,154.64
12	Revenue shortfall per acre(9 − 11 if 11 < 9)	$257.88	$109.29	$0.00
13	Maximum indemnity per acre(30% of 8)	$220.37	$183.02	$285.50
14	Indemnity per acre (smaller of 12 & 13)	$220.37	$109.29	$0.00

Table 3 lists an example of RLC for rice in Bolivar County, Mississippi, also using the 2008-10 data. For 2008 and 2009, RLC payments do not trigger because the actual revenues exceed the trigger revenues. In the case of 2008 and 2009, the revenue increases almost entirely due to the value of the mid-season price relative to the reference price used in the calculation of the benchmark revenue. The example for 2010 uses the data for this year except the actual mid-season price is replaced with a hypothetical low price to illustrate how the RLC program functions. This relatively low price results in actual revenue less than the trigger revenue. Note that the loan rate is used in place of the mid-season price if its value is higher. The difference between these two values equals the final RLC payment except the maximum RLC payment cannot exceed 10% of the benchmark revenue. In the 2010 example the difference between benchmark revenue and actual revenue (Row 11) is well below the maximum calculated payment (Row 13).

Table 2. SCO illustration for corn in Yazoo County, Mississippi.

Row	Calculation/value	2008 data	2009 data	2010 data
1	Projected price (1/15-2/14 average for Dec corn contract)	$5.40	$4.04	$3.99
2	APH yield per acre	154.66	158.51	162.36
3	Crop insurance coverage level	70%	70%	70%
4	Expected farm revenue per acre (1 × 2)	$835.16	$640.38	$647.82
5	SCO protection per acre ((90% − Row 3) × Row 4)	$167.03	$128.08	$129.56
6	Expected area-wide yield (bu.) per planted acre (higher of trend yield or 5-year moving average)	140.6	144.1	147.6
7	Area-wide projected revenue per acre (1 × 6)	$759.24	$582.16	$588.92
8	SCO coverage level	90%	90%	90%
9	November average of December corn futures price	$4.13	$3.72	$5.46
10	Actual area-wide yield per planted acre (bu.)	121.9	112.8	132.0
11	Area-wide realized revenue per acre (9 × 10)	$503.45	$419.62	$720.72
12	Realized revenue ÷ expected revenue (Row 11 ÷ Row 7)	66%	72%	122%
13	Percent shortfall bounded between 0 and the value of Row 8 − Row 3	20%	18%	0%
14	Percent shortfall as a percentage of deductible % [Row 13 ÷ (Row 8 − Row 3) bounded at 100%]	100%	90%	0%
15	Indemnity per acre (Row 5 × Row 14)	$167.03	$114.76	$-

Table 3. Revenue Loss Coverage (RLC) illustration for rice in Bolivar County, Mississippi.

Row	Value/calculation	2008	2009	2010 with hypothetical low price
1	Percent of planted acres on which payments are made	85%	85%	85%
2	5-year Olympic average yield per acre (cwt.)	69.37	69.44	68.67
3	5-year Olympic average MYA price ($/cwt.)	$13.00	$13.76	$14.04
4	Reference price	$14.00	$14.00	$14.00
5	Benchmark revenue per acre (higher of (3,4) x 2)	$971.18	$972.16	$964.13
6	Amount of benchmark revenue insured (85% of Row 5)	$825.50	$826.34	$819.51
7	Actual yield per acre (cwt.)	68.10	67.00	71.20
8	Average of 1st 5-month MYA price	$18.34	$14.72	*$11.00*
9	Loan rate	$6.50	$6.50	$6.50
10	Actual county revenue per acre (7 x higher of (8,9))	$1,248.95	$986.24	$783.20
11	Revenue difference per acre (Row 6 − Row 10)	$0.00	$0.00	$36.31
12	Revenue difference times payment percent (Row 11 × Row 1)	$0.00	$0.00	$30.86
13	Maximum RLC payment allowed per planted acre (10% x Row 5)	$97.12	$97.22	$96.41
14	Actual RLC payment (smaller of Row 12 & 13)	$0.00	$0.00	$30.86

Table 4 lists an example of PLC for soybeans in Washington County, Mississippi, once again using the 2008-10 data. As under the RLC example in Table 3, PLC payments do not trigger in 2008 or 2009. For PLC, however, payments trigger solely due to a fall in price, which for both 2008 and 2009 is well above the reference price (Rows 3 and 4). To illustrate how the PLC program functions, a hypothetical low price of $7.00 per bushel is used for the 2010 data, which is below the reference price of $8.40. The difference between these prices, $1.40, is multiplied by the payment yield in Row 2 to generate a revenue shortfall per planted acre (Row 6). The payment found in Row 7 equals this revenue shortfall per planted acre multiplied by the percent of planted acres on which payments are made (Row 1).

Table 4. Price Loss Coverage (PLC) program illustration for soybeans in Washington County, Mississippi.

Row	Calculation/Value	2008	2009	2010 with hypothetical low price
1	Percent of planted acres on which payments are made	85%	85%	85%
2	Payment yield per acre (can update to 90% of 2008-12 planted acre average; lbs. per acre)	46.83	46.83	46.83
3	Mid-season price (1st 5-month MYA Price; $ per lb.)	$9.87	$9.66	*$7.00*
4	Reference price	$8.40	$8.40	$8.40
5	Price shortfall	$0.00	$0.00	$1.40
6	Shortfall per planted acre (Row 5 × Row 2)	$0.00	$0.00	$65.56
7	Payment per planted acre (Row 1 × Row 6)	$0.00	$0.00	$55.73

Simulation Analysis

Researchers at Mississippi State analyzed the House farm bill proposal using a computer simulation model to determine the expected average per acre payments for six major crops. Significantly, this analysis does not use "backcasting" to examine what would have occurred under these proposals in the past, but instead uses the current market situation as a starting point to examine how these programs may perform in future years.

Because these payment values represent averages, in a particular year the value may be higher or lower than the payments included in this brief. Additionally, some programs such as SCO require the payment of a premium even if payments do not trigger in a particular year.

Table 5 below lists the average payments per acre for the U.S. by commodity for each of the major programs in the bill discussed above. These payments account for any premiums or other fees producers are required to pay to participate in a particular program. Note that only certain combinations of program participation are permitted under the FARRM Act. For example, if a corn producer chooses PLC and SCO, he or she cannot select RLC and vice versa. For a cotton producer, the choice is between SCO and STAX.

Table 5. Average Expected U.S. payments per acre for programs in House bill by commodity.

Crop	RLC	PLC	SCO 90-75	STAX
Corn	$ 7.62	$ 2.31	$11.38	N/A
Cotton	N/A	N/A	$14.14	$ 26.36
Grain Sorghum	$ 6.41	$ -	$12.41	N/A
Rice	$ 23.39	$ 88.43	$29.46	N/A
Soybeans	$ 5.67	$ 1.48	$8.06	N/A
Wheat	$ 4.17	$ 4.47	$6.51	N/A

The most obvious conclusion from Table 5 is combinations of average payments from PLC and SCO exceed average payments for RLC for the five eligible crops. In fact, SCO payments in the 75-90% range exceed all RLC payments and all

PLC payments except for rice. Furthermore, for wheat and rice the PLC payment alone exceeds the RLC payment. For cotton, the average STAX payment exceeds the average SCO payment.

The series of six U.S. maps that follow depict the average payments for counties by crop in the form of ratios. The maps depict the ratios of the SCO payments to RLC payments. Note a producer participating in SCO can also participate in PLC, which would add to the total payments received under this option. For cotton, the map depicts the ratio of SCO payments to STAX payments. A short discussion follows each figure.

Ratio of Corn SCO Payments to Corn RLC Payments

Ratio Value
- 1.00 to 1.25
- 1.25 to 1.50
- 1.50 to 1.75
- > 1.75
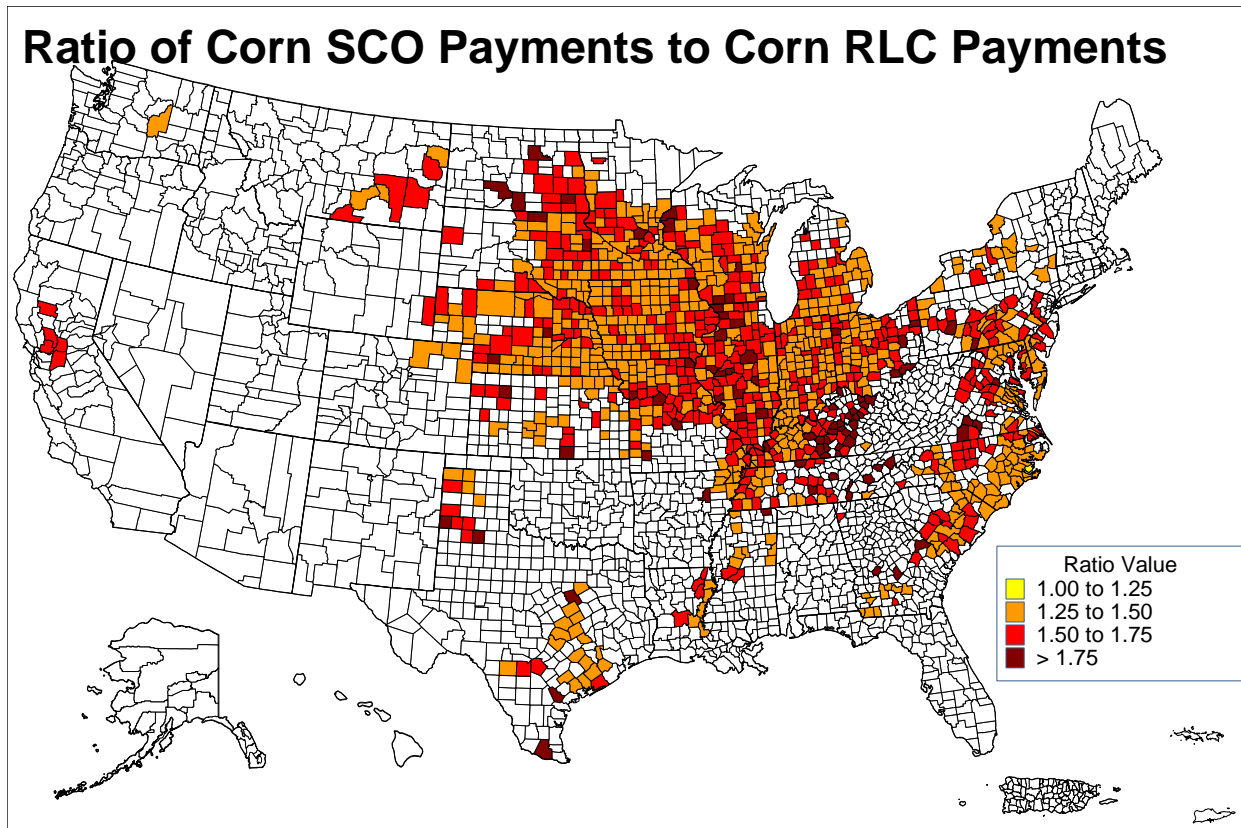
Figure 1. Ratio of Corn SCO Payments to Corn RLC Payments by County.

As seen in Figure 1, all average SCO payments for corn are larger than corn RLC payments. In the majority of corn-producing counties, SCO payments are approximately 1.25 to 1.75 times larger. For a number of counties in Illinois and Kentucky corn SCO payments are 1.75 times or more than the size of RLC payments.

Figure 2 depicts the ratio of cotton average SCO payments to cotton average STAX payments, the two programs for which cotton is eligible. The two programs generate payments of relatively similar size, although average STAX payments are larger for most counties than average SCO payments. In western Texas, for a few counties SCO payments are larger than STAX payments.

Figure 3 depicts the ratio of rice average SCO payments to rice average RLC payments. In most rice counties SCO payments are 1.25 to 1.5 times larger than RLC payments. In a few California counties it is slightly smaller, between 1 and 1.25 times the size of RLC payments.

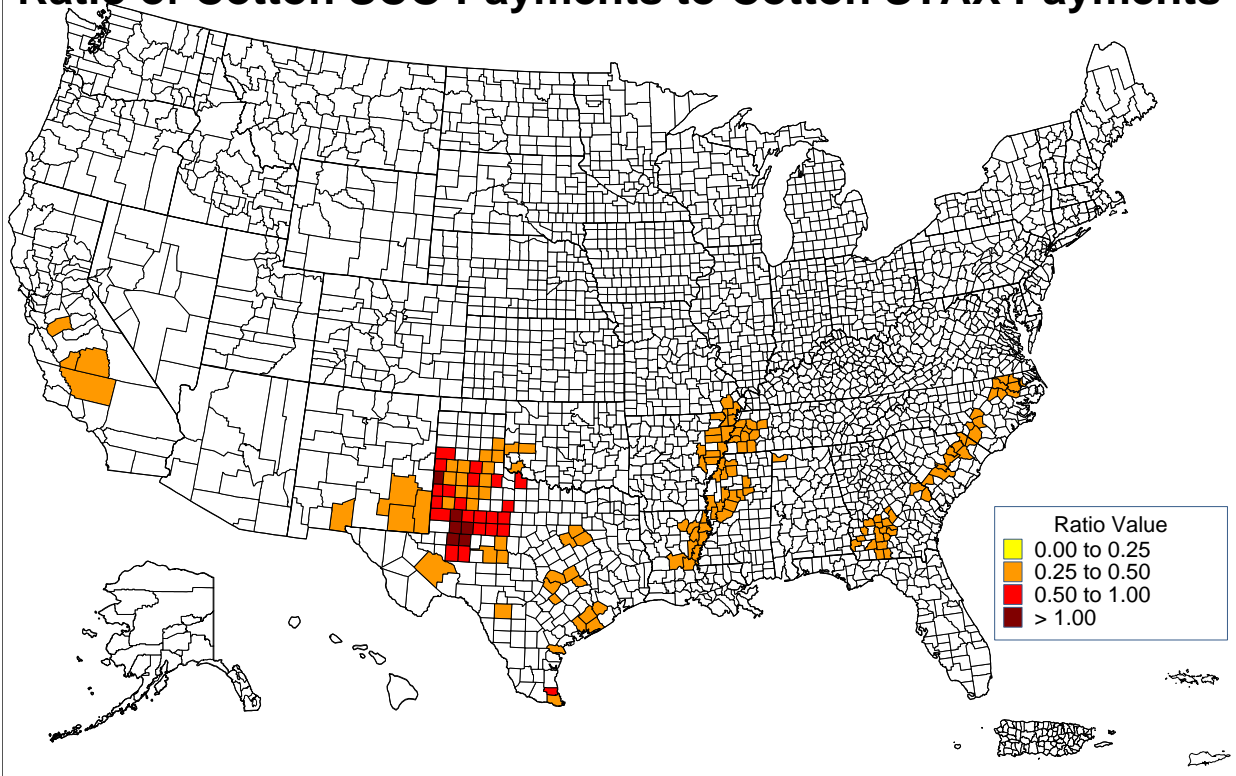# Ratio of Cotton SCO Payments to Cotton STAX Payments

Ratio Value
- 0.00 to 0.25
- 0.25 to 0.50
- 0.50 to 1.00
- > 1.00

Figure 2. Ratio of cotton SCO payments to cotton STAX payments by county.

Ratio of Rice SCO payments to Rice RLC payments

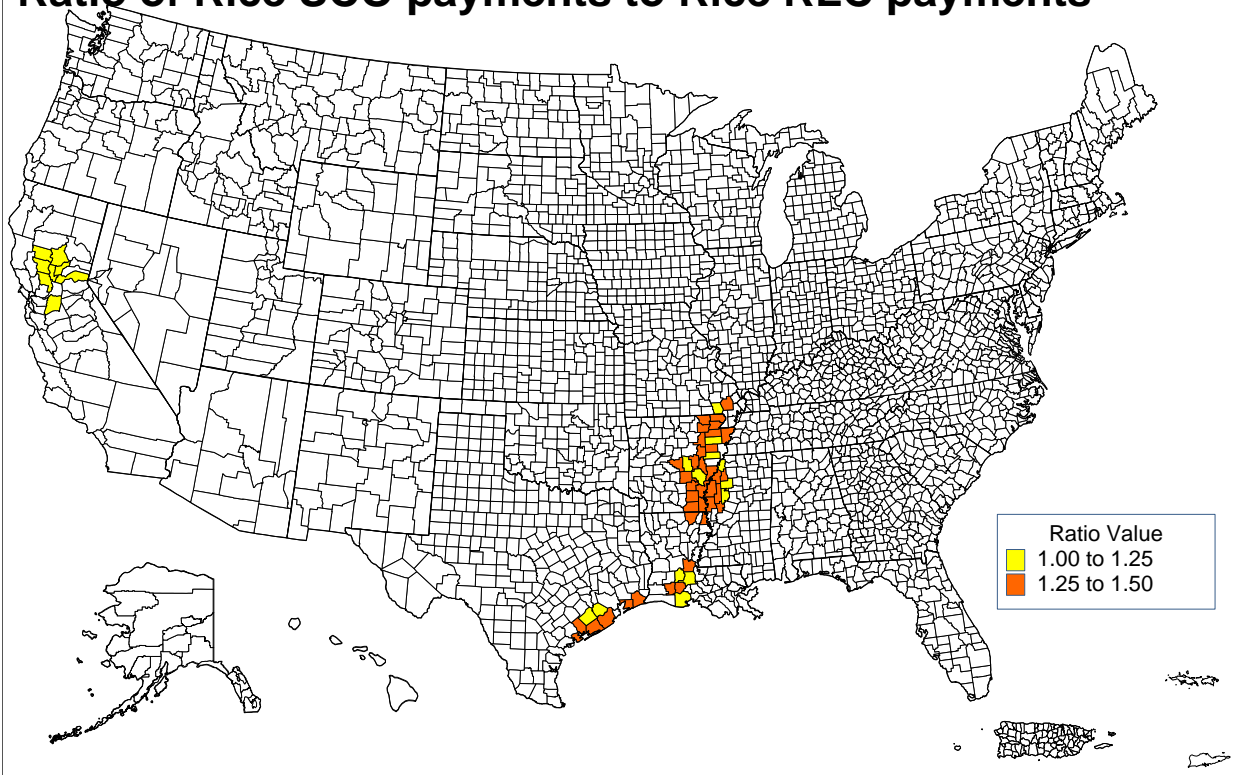Ratio Value
- 1.00 to 1.25
- 1.25 to 1.50

Figure 3. Ratio of Rice SCO Payments to Rice RLC Payments by County.
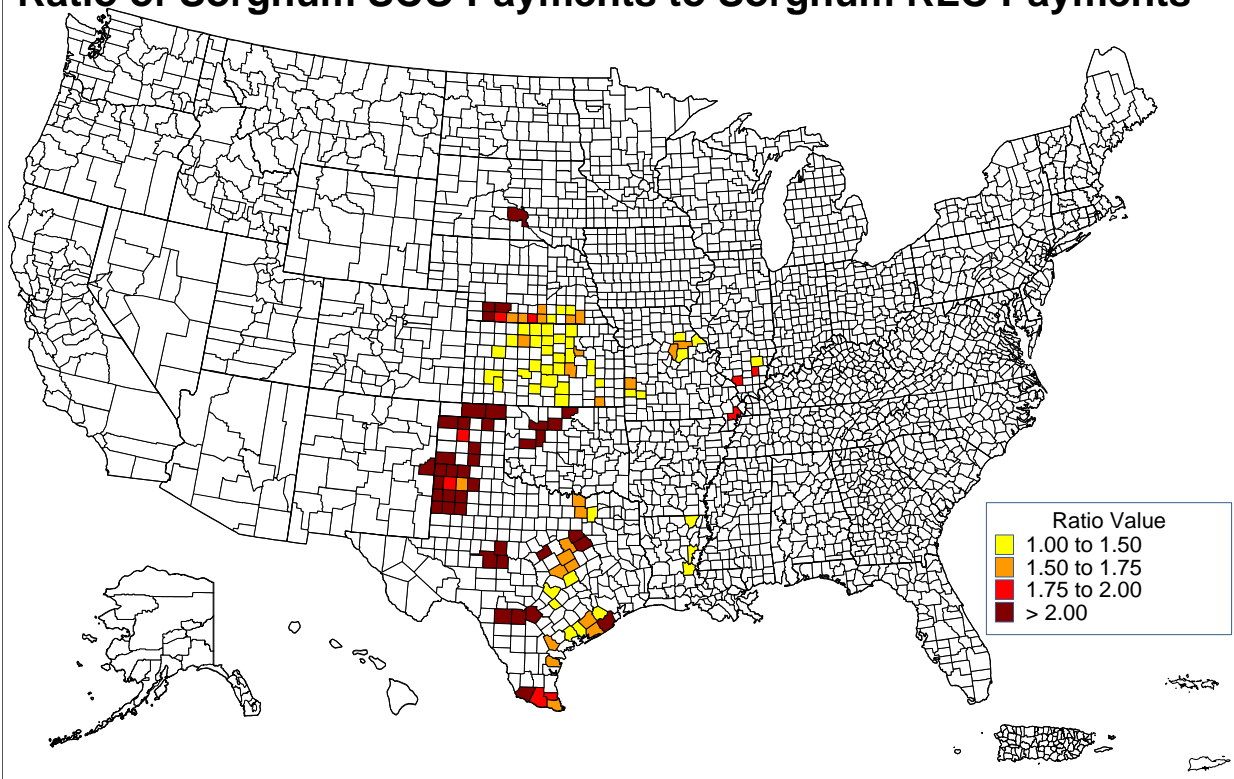
Ratio of Sorghum SCO Payments to Sorghum RLC Payments

Figure 4. Ratio of Grain Sorghum SCO Payments to Grain Sorghum RLC Payments.

In Figure 4, average SCO payments for grain sorghum dominate average RLC payments for grain sorghum. In about half the counties average SCO payments are at least 2 times the size of RLC payments. In all counties SCO payments for grain sorghum are between 1 and 1.5 times larger than RLC payments.

Figure 5 depicts how average SCO payments dominate average RLC payments, in this case for soybeans. In the major production region in the Midwest, average SCO payments for soybeans are 1.25 to 1.5 times larger than average RLC payments for soybeans. In several counties in the Carolinas and Virginia SCO payments are 1.75 times or more the size of RLC payments for soybeans.

The final map in Figure 6 depicts the domination of wheat average SCO payments over average RLC payments. In almost all counties average SCO payments for wheat are at least 1.25 times the size of average RLC payments. In most Texas counties SCO payments for wheat are 1.75 times larger or more than RLC payments.

While the final 2012 farm bill still has a long way to go before completion, a number of trends have emerged. The most significant trend is the significant role of revenue-based programs in the debate, and that essentially all proposals for the 2012 farm bill eliminate direct payments. Such a trend is in stark contrast to 2008 when lawmakers included ACRE as an option that ultimately few producers were willing to choose. Another important difference in 2012 is that the budget has become Congress' predominate concern. Thus, program cost will contribute greatly to the design of future farm programs. Researchers in the Department of Agricultural Economics at Mississippi State will continue to track and analyze proposals as the 2012 farm bill debate progresses.

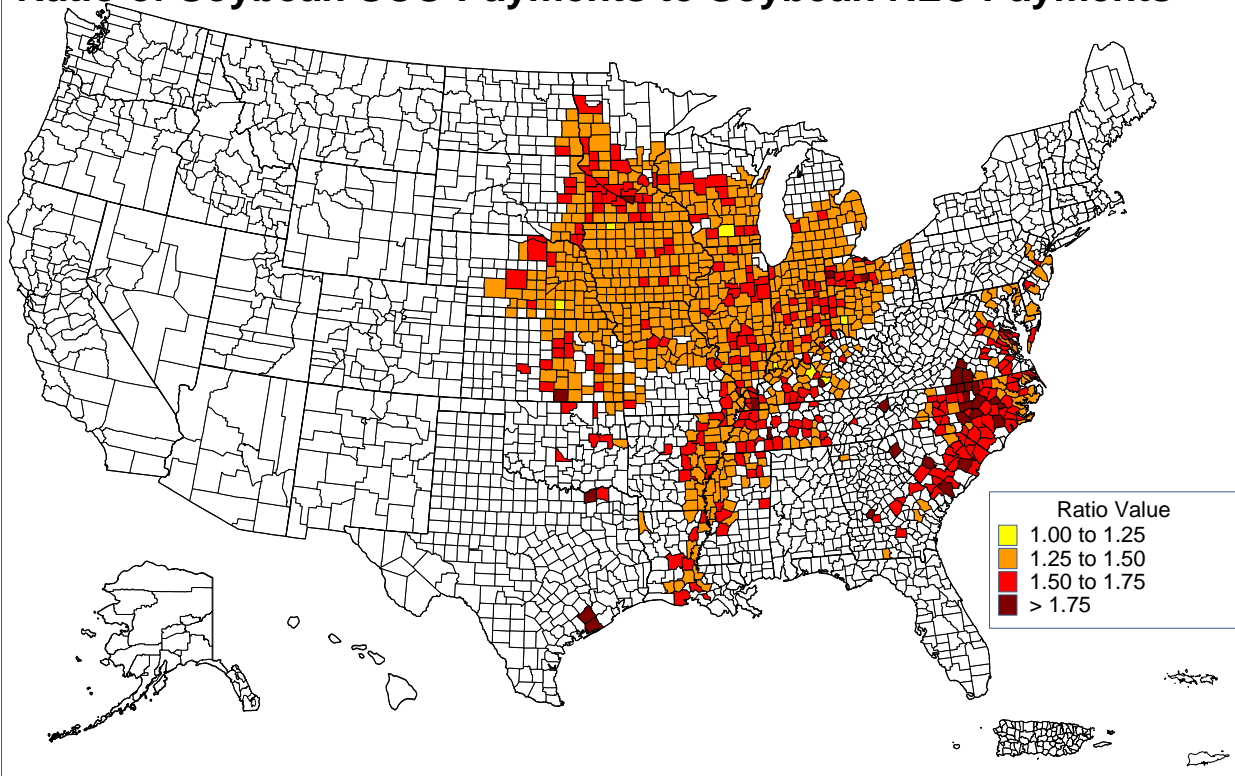**Figure 5. Ratio of Soybean SCO Payments to Soybean RLC Payments by County.**

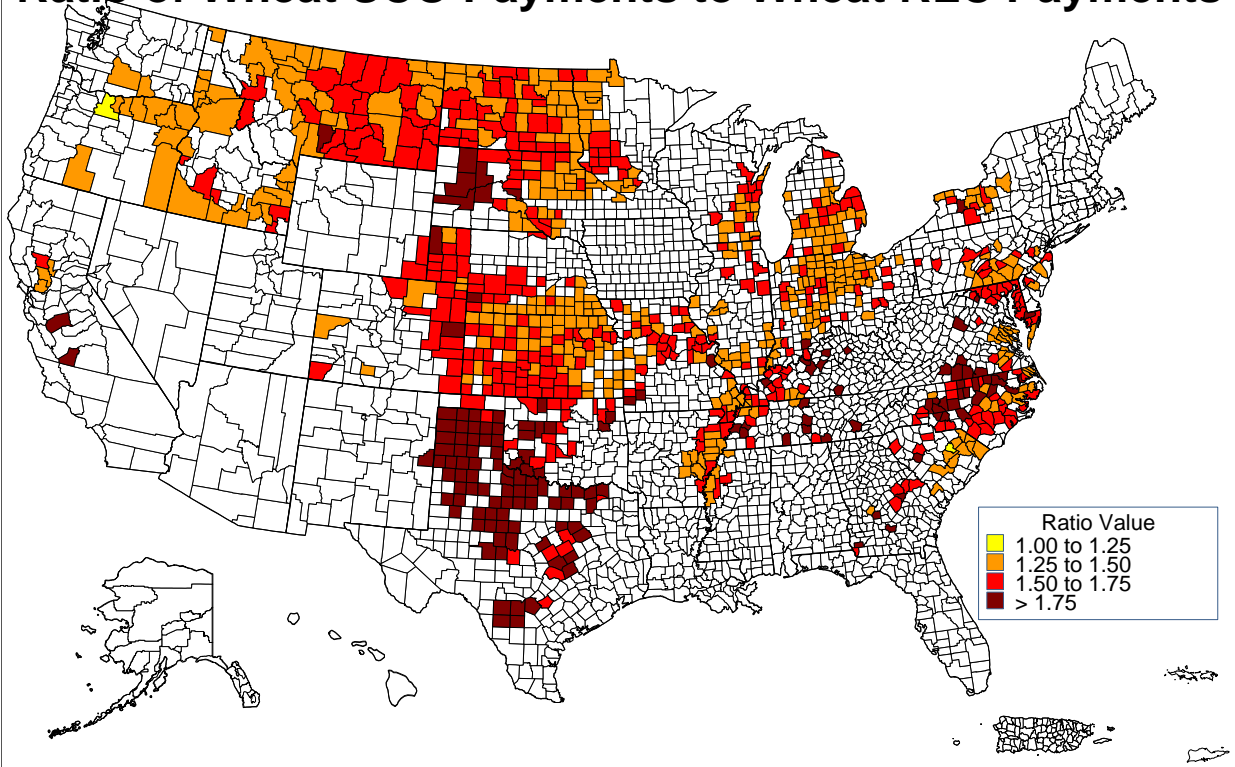**Figure 6. Ratio of Wheat SCO Payments to Wheat RLC Payments by County.**