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Impacts of the Commodity
Provisions of the Food
and Agriculture Risk
Management for the 21st
Century Act of 2007
(FARM 21)

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Table of Contents

Summary	1
Table 1. Summary of impacts from the commodity provisions of FARM 21	2
Introduction	3
Crop producer market receipts and government payments	5
Table 2. Crop producer market receipts and government payments	6
Crop supply, use and prices.....	7
Table 3. Crop supply, use and prices.....	8
Dairy, livestock, and poultry supply and prices	9
Table 4. Dairy, livestock, and poultry supply and prices.....	10
Government farm program expenditures	11
Table 5. Government farm program expenditures	12
Farm income	13
Table 6. Farm income	14
Farm real estate values	15
Table 7. Average farm real estate values	15
World Trade Organization measures of producer support	16
Table 8. Current Aggregate Measure of Support (WTO measure)	16
Other issues	17
Final comments.....	18

Summary

The proposed “Food and Agriculture Risk Management for the 21st Century Act of 2007” (FARM 21) would reorient US agricultural policy. Many current commodity programs would be scaled back or eliminated and some of the budgetary savings would be redirected to conservation, nutrition and other programs.

FARM 21 eliminates the marketing loan program in 2008 and the countercyclical payment program in 2009 for grains, oilseeds and cotton. Also eliminated in 2008 are the sugar and dairy price support programs. Direct payments tied to grain, oilseed and cotton base area are scaled back, with some of the funds deposited in risk management accounts that are not subject to federal income tax until withdrawal.

At the request of the House Committee on Agriculture, the Food and Agricultural Policy Research Institute (FAPRI) at the University of Missouri-Columbia (MU) has examined the commodity provisions of FARM 21. This report compares estimated results under FARM 21 to a baseline that assumes a continuation of 2002 farm bill provisions. Results are summarized by comparing average results across 500 stochastic outcomes over 2008-2012 for a number of important indicators (Table 1).

- Government farm program spending by the Commodity Credit Corporation (CCC) is reduced by \$21 billion over five years (fiscal years 2008-2012). For grain, oilseed and cotton programs, the reduction is more than 50 percent relative to the baseline.
- Cotton, sugar, and rice acreage are significantly reduced, but there is little net change in acreage for most other crops. Total acreage devoted to 12 major crops declines by an average of 1.1 million acres (0.4 percent).
- Eliminating price supports and allowing increased imports results in significant reductions in US sugar prices. For other crops, only cotton and rice prices change by more than one percent from baseline values.
- Average milk prices and production fall slightly from baseline levels. Eliminating the dairy price support program only has major market effects when commercial dairy market demand is weak relative to supply.
- The commodity provisions of FARM 21 result in a \$19 billion (six percent) reduction in total net farm income from 2008 to 2012. Government payments decline, as do market receipts for sugar, dairy and cotton producers. Lower net rental payments to nonoperator landlords and other reductions in production expenditures partially offset the reduction in receipts.
- The average value of farm real estate on January 1, 2013 is reduced by four percent relative to the baseline.

The study estimates impacts for only the commodity provisions of FARM 21. The bill also includes changes in conservation, nutrition and other programs that may have important effects on US agriculture, but that are beyond the scope of this study.

Table 1. Summary of impacts from the commodity provisions of FARM 21

	FARM 21			
	Baseline	Commodity Provisions	Absolute Difference	Percentage Difference
Farm Program Expenditures	(Billion Dollars, FY2008 - FY2012 Total)			
Corn	10.60	4.58	-6.02	-56.8%
Wheat	5.89	2.48	-3.40	-57.8%
Soybeans	3.46	1.28	-2.18	-63.1%
Rice	2.98	1.14	-1.84	-61.8%
Other Grains and Oilseeds	2.29	1.00	-1.29	-56.5%
Upland Cotton	10.45	4.39	-6.05	-57.9%
Sugar	0.02	-0.02	-0.04	-191.7%
Dairy	0.91	1.86	0.95	105.4%
All Other CCC Outlays	21.34	20.31	-1.03	-4.8%
Net CCC Outlays	57.92	37.01	-20.91	-36.1%
Crop Acreage	(Million Acres, 2008/09 - 2012/13 Average)			
Upland Cotton	13.79	13.07	-0.72	-5.2%
Sugar (Beets and Cane)	2.18	1.83	-0.36	-16.4%
Rice	3.00	2.91	-0.09	-3.0%
Other Grains and Oilseeds	235.23	235.34	0.11	0.0%
12 Major Crops	254.20	253.15	-1.06	-0.4%
Crop Prices	(Dollars per Unit, 2008/09 - 2012/13 Average)			
Corn per Bushel	3.20	3.19	-0.01	-0.4%
Soybeans per Bushel	6.92	6.91	-0.01	-0.2%
Wheat per Bushel	4.13	4.13	-0.01	-0.1%
Rice per Hundredweight	8.30	8.42	0.11	1.3%
Upland Cotton per Pound	0.561	0.573	0.012	2.1%
Raw Cane Sugar per Pound	0.224	0.195	-0.029	-13.1%
All Milk Price	(Dollars per Hundredweight, 2008 - 2012 Average)			
	14.53	14.26	-0.27	-1.8%
Milk Production	(Billion Pounds, 2008 - 2012 Average)			
	191.72	191.22	-0.50	-0.3%
Farm Income	(Billion Dollars, 2008 - 2012 Average)			
Government Payments	11.20	6.65	-4.55	-40.6%
Crop Receipts	147.50	146.79	-0.71	-0.5%
Livestock Receipts	128.43	127.80	-0.63	-0.5%
Rent to Nonoperator Landlords	13.65	12.36	-1.29	-9.5%
Other Production Costs	254.81	253.83	-0.98	-0.4%
Other Net Farm Income	43.70	43.49	-0.21	-0.5%
Net Farm Income	62.38	58.56	-3.82	-6.1%
	(Billion Dollars, 2008 - 2012 Total)			
Net Farm Income	311.88	292.79	-19.09	-6.1%
Average Farm Real Estate Value	(Dollars per Acre, Jan. 1, 2013)			
	2,698	2,583	-115	-4.3%

Introduction

The “Food and Agriculture Risk Management for the 21st Century Act of 2007” (FARM 21) was formally introduced by U.S. Representatives Ron Kind (D-WI), Jeff Flake (R-AZ), Joe Crowley (D-NY), and David Reichert (R-WA) on June 13, 2007. The bill reorients US farm policy, scaling back or eliminating many existing commodity programs and using part of the budgetary savings to increase resources devoted to programs in other areas.

The House Committee on Agriculture has asked the Food and Agricultural Policy Research Institute (FAPRI) at the University of Missouri-Columbia (MU) to evaluate the implications for US agriculture of the commodity provisions of FARM 21. These commodity provisions, spelled out in Title I of the bill, call for major changes in policy.

- 1) The marketing loan program for grains, oilseeds and cotton is eliminated.
- 2) Direct payments are reduced. Relative to 2002 farm bill levels, the maximum direct payment is reduced by 35 percent in fiscal year (FY) 2008, 55 percent in FY 2009, 75 percent in FY 2010, 80 percent in FY 2011, and 90 percent in FY 2012 and beyond.
- 3) A portion of the remaining direct payments is placed in “risk management accounts.” That proportion is 50 percent in FY 2008 and FY 2009, 75 percent in FY 2010 and FY 2011, and 100 percent in FY 2012.
- 4) These funds, and others voluntarily deposited in the risk management accounts by producers, are not subject to income tax until withdrawn from the accounts. Withdrawals are allowed only if gross revenue for the farm falls below 95 percent of the average of the previous five years. Partial withdrawals are also allowed for investments in rural enterprises or to purchase revenue or crop insurance.
- 5) Direct payments are reduced by a further five to 15 percent unless producers achieve the highest level on an index of environmental performance. No payments are permitted to individuals or entities with average adjusted gross income in excess of \$200,000. No more than \$30,000 in direct payments can be made to a producer in a single year.
- 6) Producers remain eligible for direct payments on base acreage planted to fruits and vegetables. Under current law, planting flexibility is limited.
- 7) The countercyclical payment program is maintained in 2008/09, but eliminated in 2009/10. A provision caps 2008/09 payment rates.¹
- 8) The dairy price support program is eliminated. Producers who have received Milk Income Loss Contract (MILC) payments would receive an annual payment that, over the FY 2008-2012 period, would equal 90 percent of the MILC payments received by the producer between FY 2003 and FY 2007.

¹ Under current law, the countercyclical payment rate cannot exceed the target price minus direct payment rate, minus the greater of the loan rate or the season average farm price. Without the cap provision, the maximum payment rate under FARM 21 in 2008/09 could be larger than under current law. The cap provision prohibits this outcome.

- 9) The sugar price support program is eliminated. The bill also indicates that “The existing sugar tariff rate quota is repealed.”²
- 10) A recourse loan program is to be established. In contrast to the nonrecourse feature of the current loan program, recourse loans would not permit producers to forfeit commodities to the government in lieu of repayment.
- 11) Crop insurance reimbursement rates are reduced from 24.5 percent to 23.2 percent.

Other titles of the bill would increase spending on selected conservation and nutrition programs, and promote rural development efforts. These provisions may have important implications, but they are beyond the scope of the quantitative analysis conducted for this report. Some qualitative comments on these other titles of the bill are offered in the final section of the report.

The point of comparison for the analysis is a slightly modified version of the FAPRI stochastic baseline prepared in January and February 2007. The stochastic baseline consists of 500 sets of alternative agricultural market outcomes for the period of 2007 to 2016. These 500 alternative outcomes share a common assumption that provisions of the 2002 farm bill that are currently scheduled to expire in 2007 will instead be extended indefinitely. Biofuel support measures, including the ethanol and biodiesel tax credits and the ethanol tariff, are also extended when they would otherwise expire. The outcomes differ from one another in assumptions about the weather, petroleum prices, and other factors that affect agricultural commodity supply and demand. More detail on the 2007 FAPRI stochastic baseline can be found in the “FAPRI U.S. Baseline Briefing Book” on the FAPRI-MU website, www.fapri.missouri.edu. The baseline used for this analysis is modified to reflect the extension of the MILC program approved by Congress and signed into law after the FAPRI baseline was prepared in early 2007. Consequences of this modification are small for commodities other than dairy.

The baseline is compared to a scenario that imposes the provisions of FARM 21. In most cases, the application of the provisions of the bill is straightforward. For example, the analysis assumes the marketing loan program and the price support program for sugar is eliminated effective with the 2008/09 marketing year. In other cases, judgments are necessary in representing the provisions of FARM 21 in the modeling system. The following assumptions are made:

- 1) The environmental, adjusted gross income and payment limitation provisions reduce direct payments by 10 percent from the maximum allowed levels. The actual effect could be larger or smaller depending on how implementing rules are written and how producers respond.
- 2) Funds deposited in risk management accounts are considered income for purposes of the farm income accounts in the year in which deposits are made, even though the deposits would not be considered income for income tax purposes. There is no attempt to estimate tax benefits associated with the risk management accounts.
- 3) The language requiring the repeal of the sugar tariff rate quota is intended to allow increased imports of sugar at low or no tariff.

² Section 106(c) of the bill. The bill does not specify how the elimination of the tariff rate quota is to be implemented.

Crop producer market receipts and government payments

FARM 21 ends the marketing loan program in 2008/09 and the countercyclical payment program in 2009/10. Direct payments are reduced over time, declining to 10 percent of baseline values by 2012/13. These changes reduce the sum of producer market receipts and government payments for all of the commodities that benefit from the current mix of programs (Table 2).

- In the baseline, average marketing loan benefits exceed \$5 per acre only for upland cotton and rice. As a result, eliminating marketing loan benefits has larger effects on producer returns and production decisions for rice and cotton than for other commodities.
- Over the 2008/09 to 2012/13 period as a whole, FARM 21 reduces average direct and countercyclical payments by approximately 70 percent for most commodities. Payments decline over time, so that the reduction is less than 50 percent in 2008/09 and more than 90 percent in 2012/13.
- Direct and countercyclical payments per base acre differ considerably among the major commodities in the baseline. As a result, similar percentage reductions in payments translate into very different absolute reductions. The five-year average reduction in direct and countercyclical payments ranges from less than \$1 per oats base acre to \$73 per rice base acre.
- Direct and countercyclical payments are tied to fixed historical area and yields, not to current production levels. Because of these program characteristics, one dollar of program benefits offered through the direct and countercyclical payment programs is likely to have less effect on production decisions than is one dollar of benefits provided through the marketing loan program. Even large changes in direct and countercyclical payments have only modest effects on crop production in the FAPRI model.
- Production shifts from the reduction in payments result in modest changes to commodity prices. The market value of cotton and rice production increases, offsetting a portion of the reduction in payments to cotton and rice producers.
- The net effect of these changes in market receipts and payments on the income of a particular producer depends on specific characteristics of the farm. The mix of crops, base acreages and program yields are some of the important factors.
- Consider the special case of a producer who has exactly one base acre of a particular crop for every acre harvested in that crop. For such a producer, the sum of market receipts and payments declines for every commodity. Average proportional reductions exceed 10 percent for cotton and rice, compared to about six percent for wheat, four percent for corn, and three percent for soybeans. Base acreage and harvested acreage need not be the same and may differ dramatically from one another on particular farms.

The average effects reported here mask important differences. For example, eliminating the marketing loan program makes little difference when market prices are well above loan rates, as is the case for most commodities in a majority of stochastic outcomes. It is much more important when large supplies and weak demand result in prices below current loan rates.

Table 2. Crop producer market receipts and government payments

	FARM 21			
	Baseline	Commodity Provisions	Absolute Difference	Percentage Difference
Market Value of Production	(Dollars per Acre, 2008/09 - 2012/13 Average)			
Corn	507.74	505.89	-1.85	-0.4%
Soybeans	292.86	292.34	-0.52	-0.2%
Wheat	177.43	177.17	-0.25	-0.1%
Upland Cotton	530.60	542.01	11.42	2.2%
Rice	597.39	605.44	8.05	1.3%
Sorghum	192.87	192.14	-0.73	-0.4%
Barley	206.28	206.48	0.20	0.1%
Oats	121.93	121.71	-0.22	-0.2%
Sunflowerseed	192.09	192.21	0.12	0.1%
Peanuts	678.05	680.71	2.66	0.4%
Marketing Loan Benefits	(Dollars per Acre, 2008/09 - 2012/13 Average)			
Corn	0.05	0.00	-0.05	-100.0%
Soybeans	1.24	0.00	-1.24	-100.0%
Wheat	0.03	0.00	-0.03	-100.0%
Upland Cotton	31.00	0.00	-31.00	-100.0%
Rice	29.13	0.00	-29.13	-100.0%
Sorghum	0.07	0.00	-0.07	-100.0%
Barley	0.37	0.00	-0.37	-100.0%
Oats	0.40	0.00	-0.40	-100.0%
Sunflowerseed	0.70	0.00	-0.70	-100.0%
Peanuts	4.81	0.00	-4.81	-100.0%
Direct and Countercyclical Payments	(Dollars per Base Acre, 2008/09 - 2012/13 Average)			
Corn	24.44	7.27	-17.17	-70.2%
Soybeans	12.09	3.67	-8.42	-69.6%
Wheat	15.36	4.71	-10.65	-69.4%
Upland Cotton	79.34	23.71	-55.64	-70.1%
Rice	111.98	38.65	-73.32	-65.5%
Sorghum	16.91	5.11	-11.80	-69.8%
Barley	9.79	2.92	-6.86	-70.1%
Oats	1.04	0.31	-0.73	-70.1%
Sunflowerseed	7.37	2.20	-5.18	-70.2%
Peanuts	80.35	22.05	-58.30	-72.6%
Total Receipts and Payments	(Dollars per Harvested Base Acre, 2008/09 - 2012/13 Average)			
Corn	532.23	513.16	-19.07	-3.6%
Soybeans	306.20	296.01	-10.18	-3.3%
Wheat	192.82	181.88	-10.94	-5.7%
Upland Cotton	640.94	565.72	-75.22	-11.7%
Rice	738.50	644.09	-94.41	-12.8%
Sorghum	209.85	197.25	-12.61	-6.0%
Barley	216.44	209.41	-7.03	-3.2%
Oats	123.37	122.02	-1.35	-1.1%
Sunflowerseed	200.16	194.41	-5.76	-2.9%
Peanuts	763.21	702.76	-60.45	-7.9%

Crop supply, use and prices

FARM 21 reductions in payments to crop producers induce acreage shifts that affect crop production, prices and use (Table 3). Production declines for the commodities that were most supported by baseline policies with smaller reductions, or actual increases, for other commodities.

- Average upland cotton production over the 2008/09-2012/13 period declines by five percent relative to the baseline under FARM 21. This is primarily because of the elimination of the marketing loan program. Rice production declines by three percent for similar reasons.
- For other grains and oilseeds, changes in production are marginal. Corn, soybean, wheat, and sorghum production all change by less than one percent. These modest impacts are the result of offsetting effects: lower payments tend to reduce production for all crops, but shifts in acreage, away from cotton and rice, tend to increase production of competing crops.
- Reduced production results in higher prices for cotton and rice. These higher prices make US products less competitive in world markets, so cotton and rice exports decline.
- In the baseline, little sugar was removed from the market by the price support program and marketing allotments generally were not binding. Under these conditions, eliminating the price support program has little impact on sugar markets, provided restrictions on imports of sugar from countries other than Mexico remain in place.
- FARM 21 also calls for the end of the tariff rate quota for sugar. If there were no restrictions on US sugar imports, US prices could fall to the much lower levels prevailing upon world markets. Whether this would happen in practice depends on just how the provision of the proposed legislation is interpreted and implemented.
- One important question is how Mexico would respond to sharply lower US sugar prices if the US eliminated all barriers to imports. The result could be a large change in Mexico's sugar trade position, with Mexico becoming an importer of US sugar.
- For purposes of this analysis, US net imports of sugar were assumed to approximately double relative to the baseline. This results in a 13 percent reduction in raw cane sugar prices, a 17 percent reduction in US sugar production and lower prices for high fructose corn syrup (HFCS).
- Lower prices for HFCS result in a 4.5 percent average reduction in the amount of corn used for HFCS production. This contributes to a slight (\$0.01 per bushel) reduction in average corn prices, which, in turn, results in more corn use for ethanol and a slight increase in corn exports.
- Soybean and wheat exports also increase marginally because of a slight reduction in prices. For the three major crops (corn, soybeans and wheat), changes in production, prices and trade are all less than one percent relative to the baseline.

Table 3. Crop supply, use and prices

	FARM 21			
	Baseline	Commodity Provisions	Absolute Difference	Percentage Difference
Production	(Million Bushels, 2008/09 - 2012/13 Average)			
Corn	13,200	13,203	3	0.0%
Soybeans	2,939	2,945	6	0.2%
Wheat	2,125	2,124	-1	0.0%
Sorghum	355	357	2	0.7%
Barley	191	190	-1	-0.6%
Oats	99	98	-1	-1.1%
	(Million Hundredweight, 2008/09 - 2012/13 Average)			
Rice	214.5	208.0	-6.5	-3.0%
	(Million Bales, 2008/09 - 2012/13 Average)			
Upland Cotton	21.21	20.11	-1.10	-5.2%
	(Million Pounds, 2008/09 - 2012/13 Average)			
Sunflowerseed	2,611	2,602	-9	-0.4%
Peanuts	4,098	4,089	-9	-0.2%
	(Million Tons, 2008/09 - 2012/13 Average)			
Sugar	8.65	7.17	-1.48	-17.1%
Selected Use Categories	(Million Bushels, 2008/09 - 2012/13 Average)			
Corn HFCS Use	531	507	-24	-4.5%
Corn Exports	1,940	1,954	14	0.7%
Corn Ethanol Use	4,103	4,117	14	0.4%
Soybean Exports	996	1,002	6	0.6%
Wheat Exports	944	945	2	0.2%
	(Million Hundredweight, 2008/09 - 2012/13 Average)			
Rice Exports	99.1	93.5	-5.6	-5.6%
	(Million Bales, 2008/09 - 2012/13 Average)			
Upland Cotton Exports	17.30	16.33	-0.97	-5.6%
	(Million Tons, 2008/09 - 2012/13 Average)			
Sugar Domestic Use	10.62	11.22	0.60	5.7%
Sugar Net Imports	2.02	4.10	2.08	103.1%
Crop Prices	(Dollars per Bushel, 2008/09 - 2012/13 Average)			
Soybeans	6.92	6.91	-0.01	-0.2%
Wheat	4.13	4.13	-0.01	-0.1%
Corn	3.20	3.19	-0.01	-0.4%
Sorghum	3.01	3.00	-0.01	-0.4%
Barley	3.16	3.17	0.00	0.1%
Oats	1.92	1.92	0.00	-0.2%
	(Dollars per Hundredweight, 2008/09 - 2012/13 Average)			
Rice	8.30	8.42	0.11	1.3%
	(Cents per Pound, 2008/09 - 2012/13 Average)			
Upland Cotton	56.13	57.28	1.15	2.1%
Sunflowerseed	14.19	14.20	0.01	0.1%
Peanuts	22.33	22.42	0.08	0.4%
Raw Cane Sugar	22.42	19.47	-2.95	-13.1%
Refined Beet Sugar	28.70	24.60	-4.09	-14.3%

Dairy, livestock, and poultry supply and prices

With little change in prices for grains and other feeds, FARM 21 does not result in significant changes in production costs for dairy, livestock and poultry producers. Except in the case of dairy, most of the estimated impacts of the bill on the animal sector are negligible (Table 4).

- The baseline dairy price support is at levels far below prices prevailing in dairy markets today, so it currently has no significant market impact. In a few of the 500 stochastic outcomes, however, prices at least occasionally dip low enough to trigger dairy price support purchases.
- The elimination of the price support program under FARM 21 means that milk prices could fall lower than is possible under current policies. Furthermore, in a few stochastic outcomes, a small amount of government stocks accumulate in 2007. The assumption is that these stocks would be released onto the market when FARM 21 is implemented. This explains the negative net dairy removals shown in Table 4.
- Under FARM 21, the current MILC program is replaced by a program with fixed payments based on historical MILC payments to producers. Given baseline projections for dairy market prices, these proposed payments that are not tied to prices are larger than the average MILC payments dairy farmers receive in the baseline that continues current farm programs. This would not be the case in market outcomes that result in the class I mover falling below \$12.05 per cwt.
- Milk prices decline by an average of 1.8 percent relative to the baseline over the 2008-2012 period. Milk production declines marginally. All else equal, the increase in producer payments would increase milk production. This effect is more than offset by lower milk prices and the fact that the new payments are somewhat decoupled from current production decisions.
- With little change in feed prices, beef, pork, and poultry production all change by 0.1 percent or less from baseline levels. As a result, producer prices for livestock and poultry also change by 0.1 percent or less.
- These negligible changes at the producer level mean that consumers would not see significant changes in meat and poultry prices.
- The only notable consumer effects of the proposal would be lower prices for dairy products and products that contain sugar and other sweeteners, and higher prices for products containing rice and textiles made with cotton. Even in those cases, the proportional changes in consumer prices are likely to be smaller than the changes in producer prices.

Table 4. Dairy, livestock, and poultry supply and prices

		FARM 21		
	Baseline	Commodity Provisions	Absolute Difference	Percentage Difference
Production		(Billion Pounds)		
Milk	191.72	191.22	-0.50	-0.3%
Beef	28.10	28.10	0.00	0.0%
Pork	21.81	21.82	0.01	0.0%
Chicken	37.35	37.38	0.03	0.1%
Turkey	5.90	5.90	0.00	0.0%
Dairy Net Removals		(Million Pounds)		
Butter	54.6	-11.2	-65.8	-120.5%
Nonfat Dry Milk	6.4	-1.6	-8.0	-124.2%
Prices		(Dollars per Hundredweight)		
All Milk	14.53	14.26	-0.27	-1.8%
Nebraska Direct Steers	83.48	83.44	-0.04	0.0%
OK City Feeder Cattle	94.81	94.89	0.09	0.1%
51-52% Lean Barrows & Gilts	49.72	49.64	-0.07	-0.1%
12-City Wholesale Chicken	70.05	69.95	-0.10	-0.1%
East Region Wholesale Turkeys	76.59	76.51	-0.08	-0.1%

Government farm program expenditures

FARM 21 results in significant reductions in government farm program expenditures by the CCC (Table 5). Eliminating marketing loans and countercyclical payments, sharply reducing direct payments, and eliminating the dairy and sugar price support programs all result in reductions in CCC net outlays.

- For all the major field crops covered by the current marketing loan and direct and countercyclical payment programs, net program outlays by the CCC decline by more than 50 percent from baseline levels over the FY 2008 – FY 2012 period. Reductions are proportionally larger at the end of the period than at the beginning.
- Baseline spending on marketing loans and countercyclical payments is zero or very small in most of the 500 stochastic outcomes. In the few stochastic outcomes where commodity prices are well below average levels, baseline spending is much higher, so eliminating price-based subsidy programs has a much larger effect on government spending.
- Dairy program outlays increase relative to the baseline under FARM 21. Eliminating the price support program results in budgetary savings, but the proposed dairy payment program would make more payments over the FY 2008 – FY 2012 period than would occur under the baseline MILC program.
- Average net outlays on the sugar program decline by more than 100 percent. In some stochastic baseline outcomes, a modest amount of CCC sugar stocks accumulate in FY 2007. Under FARM 21, it is assumed that these stocks are sold back into the market, resulting in a receipt (a negative outlay) to the CCC.
- Conservation reserve spending increases a negligible amount under FARM 21. Lower returns to crop production result in more farmers choosing to enroll new land in the reserve or extend existing contracts. This positive effect on conservation reserve spending is largely offset by an expected modest reduction in rental rates for new or extended contracts relative to the baseline.
- In Table 5, “Other CCC Outlays” includes a variety of programs and categories of government outlays. The estimated reduction in these outlays largely occurs because loan program elimination results in a reduction in net interest outlays by the CCC.
- Overall, net CCC outlays decline by \$20.9 billion relative to the baseline between FY 2008 and FY 2012. By FY 2013, the reductions from baseline spending levels reach almost \$7 billion per year. Over the ten-year period between FY 2008 and FY 2017, net CCC outlays decline by \$55.7 billion relative to the baseline.
- These estimates are only for CCC outlays, and consider only the effects of the commodity provisions of FARM 21. Additional budgetary savings would result from the reduction in reimbursements to crop insurers also included in Title I of the bill. Title II of the bill, not considered in the quantitative estimates calculated in this report, would result in spending above baseline levels for various environmental, nutrition, energy and rural development programs.

Table 5. Government farm program expenditures

	FARM 21			
	Baseline	Commodity Provisions	Absolute Difference	Percentage Difference
Net CCC Outlays by Program	(Million Dollars, FY2008 - FY2012 Total)			
Soybeans	3,462	1,279	-2,183	-63.1%
Wheat	5,887	2,484	-3,403	-57.8%
Corn	10,598	4,577	-6,021	-56.8%
Sorghum	1,005	443	-561	-55.9%
Barley	427	177	-251	-58.7%
Oats	20	6	-14	-71.6%
Rice	2,976	1,136	-1,840	-61.8%
Upland Cotton	10,446	4,393	-6,053	-57.9%
Minor Oilseeds	110	37	-73	-66.6%
Peanuts	726	333	-394	-54.2%
Sugar	19	-18	-37	-191.7%
Dairy	906	1,860	954	105.4%
Conservation Reserve	10,227	10,259	32	0.3%
Tobacco Trust Fund	4,975	4,975	0	0.0%
Other CCC Outlays	6,135	5,073	-1,062	-17.3%
Total	57,918	37,012	-20,906	-36.1%
Net CCC Outlays by Year	(Million Dollars)			
FY 2008	11,679	10,690	-989	-8.5%
FY 2009	11,739	8,415	-3,324	-28.3%
FY 2010	11,457	7,019	-4,438	-38.7%
FY 2011	11,484	5,544	-5,940	-51.7%
FY 2012	11,559	5,344	-6,215	-53.8%
FY 2013	11,593	4,720	-6,873	-59.3%
FY 2014	11,706	4,764	-6,942	-59.3%
FY 2015	10,761	3,757	-7,004	-65.1%
FY 2016	10,745	3,765	-6,980	-65.0%
FY 2008-FY 2012	57,918	37,012	-20,906	-36.1%
FY 2008-FY 2017*	113,468	57,783	-55,685	-49.1%

*The FAPRI 2007 baseline extends through FY 2016. The 10-year estimate assumes FY 2017 outlays equal those of FY 2016.

Farm income

The commodity provisions of FARM 21 result in lower government payments that largely translate into lower estimates of net farm income (Table 6). The story is more complex, as the bill results in changes to various categories of farm receipts and expenses.

- Over the five calendar years between 2008 and 2012, government payments under FARM 21 decline by an average of \$4.55 billion per year.
- Crop receipts from marketings also decline by an average of \$0.71 billion per year. Most of the decline can be explained by lower prices and receipts for sugar and cotton.
- Dairy, livestock and poultry market receipts decline by an average of \$0.63 billion per year. Lower dairy prices and receipts account for almost all the decline.
- Production costs also decline. Reduced production of cotton and rice, two crops with high per-acre costs, explain part of the change. The single largest factor, however, is a reduction in net rental payments to nonoperator landlords. Lower net returns to crop production result in lower rental payments than in the baseline.
- The net effect of these offsetting factors is that net farm income declines by an average of \$3.82 billion (6.1 percent) relative to the baseline over the period from 2008-2012.
- The decline in net farm income exceeds \$3 billion in every year and peaks at \$4.53 billion in 2010.
- The farm income effects reported in Table 6 are an average of a wide range of possible outcomes. Changes in government payments and farm income are much larger in the small proportion of stochastic outcomes where low market prices result in high levels of baseline spending on the marketing loan and countercyclical payment programs.
- These estimates of net farm income, for the sector as a whole, are not good indicators of the impact of the bill on particular producers. For producers of the field crops receiving the highest level of support in the baseline, the proportional reductions in net income may be very large. In contrast, for livestock and poultry producers, the commodity provisions of FARM 21 may have little net impact on producer income.
- These estimates do not include any possible consequences of conservation program changes and other provisions of Title II of the bill.

Table 6. Farm income

	FARM 21			
	Baseline	Commodity Provisions	Absolute Difference	Percentage Difference
Net Farm Income by Category	(Billion Dollars, 2008 - 2012 Average)			
Government Payments	11.20	6.65	-4.55	-40.6%
Crop Receipts from Marketings	147.50	146.79	-0.71	-0.5%
Cotton	6.52	6.34	-0.18	-2.8%
Sugar	2.38	2.07	-0.31	-12.9%
All Other	138.60	138.38	-0.22	-0.2%
Livestock Receipts from Marketings	128.43	127.80	-0.63	-0.5%
Dairy	27.72	27.14	-0.58	-2.1%
All Other	100.71	100.67	-0.05	0.0%
Total Receipts and Payments	287.13	281.25	-5.89	-2.0%
Total Production Costs	268.46	266.18	-2.28	-0.8%
Rent to Nonoperator Landlords	13.65	12.36	-1.29	-9.5%
All Other Production Costs	254.81	253.83	-0.98	-0.4%
Other Net Farm Income	43.70	43.49	-0.21	-0.5%
Net Farm Income	62.38	58.56	-3.82	-6.1%
Net Farm Income by Year	(Billion Dollars)			
2008	63.22	60.13	-3.08	-4.9%
2009	62.66	59.31	-3.35	-5.3%
2010	62.24	57.72	-4.53	-7.3%
2011	62.38	58.30	-4.07	-6.5%
2012	61.38	57.33	-4.06	-6.6%
2013	60.43	56.44	-3.99	-6.6%
2014	60.70	56.98	-3.72	-6.1%
2015	60.40	56.75	-3.65	-6.0%
2016	61.36	58.06	-3.30	-5.4%

Farm real estate values

The commodity provisions of FARM 21 result in lower net income to many agricultural producers. This translates into lower farm real estate values than under the baseline (Table 7).

- Across all US farm real estate, average values decline by \$115 per acre (4.3 percent) on January 1, 2013 relative to the baseline. The proportional decline increases over time.
- As with farm income measures, this measure of average farm real estate values may not be a good indicator of land values in different parts of the country. Expect reductions in farm real estate values to be greatest in the regions where the reductions in net income are largest, all else equal.

Table 7. Average farm real estate values

	FARM 21			
	Baseline	Commodity Provisions	Absolute Difference	Percentage Difference
	(Dollars per Acre, Jan. 1)			
2008	2,206	2,204	-2	-0.1%
2009	2,390	2,364	-26	-1.1%
2010	2,471	2,426	-45	-1.8%
2011	2,544	2,474	-70	-2.7%
2012	2,622	2,528	-94	-3.6%
2013	2,698	2,583	-115	-4.3%
2014	2,784	2,649	-135	-4.9%
2015	2,873	2,720	-153	-5.3%
2016	2,958	2,789	-169	-5.7%

World Trade Organization measures of producer support

FARM 21 would eliminate most of the programs that are classified as “amber box” support by the World Trade Organization (WTO) (Table 8). Under FARM 21, the US is more likely to be in compliance with proposals to limit the “total current aggregate measure of support” to levels below the existing limit of \$19.1 billion. Figures reported in Table 8 are based on a series of assumptions. Whether or not all of the assumptions are appropriate, it is clear that FARM 21 would sharply reduce US amber box support.

Table 8. Current Aggregate Measure of Support (World Trade Organization measure)

	FARM 21			
	Baseline	Commodity Provisions	Absolute Difference	Percentage Difference
	(Million Dollars)			
2008	7,289	337	-6,696	-95.2%
2009	7,407	447	-6,596	-93.7%
2010	7,409	388	-6,720	-94.5%
2011	7,371	288	-6,876	-96.0%
2012	7,489	420	-6,733	-94.1%
2013	7,470	313	-6,922	-95.7%
2014	7,633	345	-6,993	-95.3%
2015	7,625	299	-7,098	-96.0%
2016	7,652	263	-7,181	-96.5%

Note: Estimates assume rules that have been proposed as part of Doha Round negotiations. Countercyclical payments are assumed to be included in a redefined blue box, and thus are not included in this measure of amber box support subject to limitation. Direct payments are assumed not to be included in the amber box. The current AMS under FARM 21 is positive only when crop insurance net indemnities and other nonproduct specific amber box support exceeds the proposed *de minimis* level of 2.5% of the value of production.

If current WTO rules were assumed, the baseline total current AMS would be similar, assuming direct payments are not included in the AMS and countercyclical payments are considered noncommodity specific amber box support. The current AMS under FARM 21 would be zero in every year.

Other issues

This report has focused on the commodity provisions in Title I of FARM 21. The analysis has been limited to indicators that could be readily quantified using FAPRI's stochastic model of the US agricultural sector. The following are some of the issues that could be addressed in a more complete analysis of FARM 21 as a whole.

Title I

Further research would be valuable in understanding the implications of the risk management accounts created in Title I. The accounts provide tax advantages not examined in this report and could provide producers a tool to even out annual variation in income. Mandatory deposits in the risk management accounts decline over time.³ The magnitude of voluntary producer deposits is difficult to estimate, but worthy of further research. If those deposits are large, the tax benefits of the proposals could be significant; if voluntary deposits are limited, the modest scale of mandatory deposits would limit the importance of any tax benefits.

Impacts of changing current crop planting flexibility rules also warrants further investigation. Under current law, rules limit the ability of producers to plant fruits and vegetables on base acres eligible for direct and countercyclical payments. FARM 21 removes these restrictions, so producers can continue to receive direct payments even if they choose to plant fruits or vegetables on base acreage. In the context of other program changes, the analysis assumes that any effects of this change in planting flexibility rules would be small enough to be ignored. With no countercyclical payments, and direct payments at 10 percent of baseline levels by 2012, it seems unlikely that the small remaining payments would significantly influence production decisions, with or without changes in planting flexibility rules. Changes in flexibility rules might be more important if payments tied to base acreage were maintained at higher levels.

This report does not consider the implications of reducing crop insurance reimbursement rates as delineated in Title I. These reimbursements to insurers do not directly affect producer income and are not part of CCC outlays. So, it is not clear that the omission would significantly affect the estimates reported here. The reimbursements, of course, are important to the insurers, and implications for insurer behavior should be considered.

Title II

Provisions of Title II of the bill could have important implications for the agricultural sector and the rest of the country. The conservation provisions, for example, provide spending above 2002 farm bill levels for the Environmental Quality Incentives Program (EQIP), the Wetland Reserve Program (WRP) and the Wildlife Habitat Incentives Program (WHIP). Additional spending on these programs would have implications for the environment, markets and farm income.

In 2012, for example, EQIP funding increases from \$1.3 billion under current law to \$2 billion under FARM 21. An important question is how much an additional \$700 million per year in EQIP funding would affect farm income and environmental outcomes. Because EQIP is a cost-share program, producers would have to provide at least a partial match to be eligible for the new funds. It is unclear

³ Baseline direct payments are slightly over \$5 billion per year. In 2008, direct payments under Title I are reduced by a minimum of 35 percent. Fifty percent of the payments are deposited in risk management accounts. Including mandatory deposits from the dairy program, approximately \$2 billion in mandatory deposits would be made in 2008. Direct payments are reduced by 90 percent by 2012, with the full amount deposited in the risk management accounts. Assuming dairy payments end in 2012, about \$500 million dollars in mandatory deposits would occur in 2013 and subsequent years.

how much net farm income would increase for every dollar of additional federal spending on the program. Unless the new spending results in practices that significantly increase productivity, however, it appears likely that net farm income would increase by significantly less than the increase in budgetary expenditures. EQIP, of course, is not intended just to increase producer income, but also to improve the provision of environmental services. Likewise, EQIP and other conservation programs could also have some effect on crop supply.

The increase in spending on selected nutrition programs could have implications both for agricultural producers and the rest of society. The programs are likely to result in at least some increase in demand for certain foods, with positive impacts for agricultural producers. Nutrition program recipients, of course, are directly affected by changes in these programs.

The renewable energy and rural development provisions of Title II could also have important implications. Such programs are intended to create new jobs and opportunities for rural households, including the many farm families that earn income from off-farm employment and investments.

Finally, the overall bill is intended to reduce the federal deficit. This report only estimates the budgetary consequences of the commodity provisions in the bill, but it appears likely that the bill as a whole would reduce budgetary expenditures. If the result is a smaller federal budget deficit, then there are impacts on the US economy as a whole.

Final comments

This report has focused on the commodity provisions of Title I of the bill. These provisions would reduce government farm program spending and net farm income. With a few exceptions, most of the effects on agricultural commodity production and prices would be modest.

The provisions of Title II of the bill have only been discussed in qualitative terms. Readers are reminded that the quantitative estimates included in this report concern only the effects of the commodity provisions of Title I of FARM 21, not the bill as a whole.

Notes

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