

Baseline Update for U.S. Farm Income and Government Outlays

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The projections in this report were prepared by the team at FAPRI-MU, including Pat Westhoff (westhoff@missouri.edu), Scott Gerlt (gerlts@missouri.edu), and Kateryna Schroeder (schroederkg@missouri.edu). The farm income and government cost projections are based on an August 2016 baseline update for agricultural commodity markets (FAPRI-MU report #05-16).

The farm income model used in this analysis was developed with the assistance of John Kruse at World Agricultural Economic and Environmental Services, but Dr. Kruse is not responsible for these projections.

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Summary

Net farm income is expected to decline for the third straight year in 2016 and is likely to remain well below recent peaks for the next several years.

This report provides estimates of farm income and government farm program outlays consistent with the agricultural market outlook reported in the FAPRI-MU August baseline update (FAPRI-MU report #05-16, available at www.fapri.missouri.edu). It incorporates revised estimates of 2015 farm income released by USDA's Economic Research Service in late August, as well as updated information regarding farm program spending.

Here are a few highlights:

- Sharply lower cattle and egg prices contribute to a \$23 billion reduction in projected livestock sector receipts in 2016. Crop receipts also decline slightly, as lower prices for corn, wheat and other crops offset the impact of increased production.
- Projected net farm income declines by \$10 billion in 2016, as the drop in receipts outweighs reductions in production costs.
- Net farm income increases slightly between 2017 and 2019, in part because of a modest recovery in crop prices and cash receipts. Even in 2019, however, nominal net farm income remains below the 2015 level, and inflation-corrected real net farm income is well below the 2003-2012 average.
- These projections show significantly higher net farm income than reported in the March 2016 FAPRI-MU baseline outlook. In 2016, for example, projected net farm income is \$15 billion above the March estimates.
- Most of the difference can be explained by historical data revisions. USDA reduced its estimates of 2015 production expenses by more than \$21 billion from previous estimates, with reduced capital consumption accounting for almost half the change. Using the revised 2015 costs as a new point of reference results in lower estimates of production expenses and higher net farm income.
- August USDA reports indicated cropland rental rates and average farm real estate values declined in 2016 after years of sharp increases. Additional declines are projected for 2017-2019 in response to sharp reductions in crop returns relative to recent peak levels.
- With reduced asset values, the projected ratio of farm debts to assets increases from 12 percent in 2015 to 14 percent in 2019.
- Government farm program outlays peak in fiscal year 2018, when many payments associated with the 2016/17 marketing year are made.
- Projected outlays decline sharply in fiscal year 2019. Under the agricultural risk coverage (ARC) program, the level of revenues that will trigger payments will decline sharply in many counties because of program formulas tied to moving averages of market prices.

The figures reported here are point estimates, based on a particular set of projected market outcomes. This contrasts with the projections reported in the baseline outlook published in March 2016, which represented averages of 500 stochastic outcomes. This distinction is particularly important in the case of farm program outlays, where the average of stochastic outcomes would likely be greater, especially in fiscal year 2019, than the figures reported here.

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Farm cash receipts

Calendar year	2003-12 Average	2013	2014	2015	2016	2017	2018	2019
				(Billion dollars)				
Feed grains	46.70	70.84	65.87	57.81	55.37	55.45	60.07	63.60
Food grains	13.13	17.24	16.05	13.04	11.35	11.42	12.26	12.94
Oilseeds	28.08	47.27	42.62	37.88	37.55	38.75	39.30	40.42
Cotton	6.22	6.52	7.11	5.03	5.13	5.47	5.41	5.48
Sugar	2.48	3.30	2.46	2.47	2.87	2.94	3.08	3.13
Other crops	60.53	75.70	77.24	73.18	73.44	75.22	76.94	78.74
Cattle	51.28	67.46	81.48	78.23	65.62	64.63	63.03	62.19
Hogs	16.11	23.76	26.52	21.03	19.34	17.95	18.77	19.97
Dairy products	30.13	40.28	49.35	35.74	33.96	36.10	38.84	40.06
Poultry, eggs	31.78	44.37	48.39	48.02	40.89	41.92	43.43	45.27
Other livestock	5.40	6.84	7.06	6.75	6.63	6.69	6.84	7.00
Total cash receipts	291.84	403.57	424.14	379.17	352.14	356.51	367.97	378.80

Farm production expenses

Calendar year	2003-12 Average	2013	2014	2015	2016	2017	2018	2019
				(Billion dollars)				
Feed	41.12	62.44	63.75	58.54	56.63	57.00	60.19	62.68
Purchased livestock	19.66	25.51	31.20	30.37	23.33	23.17	21.97	21.24
Seed	13.88	21.92	22.09	21.32	21.76	21.07	21.03	21.25
Fertilizer and chemicals	28.82	42.98	43.90	40.17	38.70	37.47	38.74	40.00
Fuels and electricity	16.95	22.85	23.60	18.89	17.05	18.28	19.18	20.16
Interest	14.82	14.86	15.63	16.41	17.01	17.00	18.00	19.15
Contract and hired labor	26.23	31.88	33.91	31.62	32.44	33.41	34.35	35.27
Capital consumption	22.61	37.76	49.70	40.88	40.07	39.47	39.03	38.68
Rent to landlords	12.29	22.86	20.72	20.04	19.41	18.77	18.61	18.49
All other	66.37	77.02	85.89	80.51	81.40	81.84	83.39	85.02
Total production expenses	262.76	360.08	390.40	358.76	347.82	347.48	354.50	361.94

Farm income statistics

Calendar year	2003-12 Average	2013	2014	2015	2016	2017	2018	2019
	(Billion dollars)							
1. Farm receipts	313.36	444.56	460.72	413.55	386.30	391.70	404.59	416.77
Crops	157.14	220.86	211.35	189.40	185.71	189.23	197.06	204.31
Livestock	134.70	182.70	212.79	189.77	166.44	167.28	170.91	174.50
Farm-related	21.52	40.99	36.58	34.38	34.16	35.20	36.62	37.96
2. Government payments	13.94	11.00	9.77	10.80	13.40	14.36	9.87	7.54
3. Gross cash income (1 + 2)	327.30	455.56	470.49	424.35	399.70	406.06	414.47	424.31
4. Nonmoney income	17.65	17.69	16.89	17.76	17.96	18.10	18.27	18.40
5. Value of inventory Change	-3.99	10.59	-4.33	-2.61	0.96	-3.79	-0.27	-0.91
6. Gross farm income (3 + 4 + 5)	340.96	483.84	483.05	439.50	418.62	420.37	432.47	441.80
7. Cash expenses	237.08	319.98	338.94	315.88	305.96	306.03	313.43	321.19
8. Total expenses	262.76	360.08	390.40	358.76	347.82	347.48	354.50	361.94
9. Net cash income (3 - 7)	90.23	135.58	131.54	108.47	93.75	100.03	101.03	103.12
10. Realized net farm inc (3 + 4 - 8)	82.19	113.16	96.98	83.35	69.84	76.68	78.24	80.78
11. Net farm income (6 - 8)	78.20	123.76	92.65	80.74	70.81	72.89	77.97	79.87
Deflated (2015 \$)	88.42	127.10	93.61	80.74	69.62	70.31	73.70	73.98

Changes from FAPRI-MU March baseline

Calendar year	2015	2016	2017
	(Billion dollars)		
Crop cash receipts	-1.9	-1.9	-5.2
Livestock cash receipts	4.1	-7.9	-4.3
Government payments	0.2	-0.2	1.9
Production expenses (of which, capital consumption)	-21.5	-24.1	-28.5
Value of inventory change	-0.1	0.5	-5.0
All other changes in net farm income	0.5	0.3	0.0
Net farm income	24.3	14.8	15.9

Land rental rates and real estate values

Calendar year	2003-12 Average	2013	2014	2015	2016	2017	2018	2019
Rental rates				(Dollars per acre)				
Cropland	90.70	136.00	141.00	144.00	136.00	131.79	130.63	129.78
Pasture	10.52	12.00	12.00	14.00	13.00	12.86	12.91	12.96
Value of farm real estate	1,929	2,730	2,950	3,020	3,010	2,917	2,827	2,732

Farm sector balance sheet

Calendar year	2003-12 Average	2013	2014	2015	2016	2017	2018	2019
				(Billion dollars)				
Assets	1,949	2,776	2,949	2,910	2,874	2,798	2,732	2,665
Real estate	1,529	2,251	2,383	2,396	2,388	2,319	2,252	2,181
All other	420	525	566	514	485	479	480	484
Debts	244	315	346	357	360	363	368	373
Debt/asset ratio	12.5%	11.4%	11.7%	12.3%	12.5%	13.0%	13.5%	14.0%

Net government outlays

Fiscal year	2003-12 Average	2013	2014	2015	2016	2017	2018	2019
Feed grains				(Million dollars)				
Corn	3,159	1,916	2,093	201	3,739	4,631	4,504	986
Sorghum	235	188	181	44	37	256	364	255
Barley	95	77	74	3	10	7	74	87
Oats	3	3	3	0	0	19	28	18
Food grains								
Wheat	1,098	1,116	1,089	143	462	1,253	2,364	1,528
Rice	583	292	350	18	387	487	631	671
Oilseeds								
Soybeans	611	539	591	26	327	1,223	739	644
Peanuts	346	107	46	74	307	572	620	607
Other oilseeds	26	18	18	6	64	85	105	99
Upland cotton	2,173	562	607	1,009	391	88	71	73
Subtotal, selcted commodities	8,329	4,819	5,053	1,523	5,724	8,622	9,500	4,969
Conservation reserve	1,890	1,928	1,732	1,736	1,723	1,848	1,812	1,825
Other CCC								
Disaster payments, NAP	709	318	3,184	2,737	761	614	640	657
Other net costs	1,753	2,100	2,243	658	551	546	574	612
Net CCC outlays	12,681	9,165	12,211	6,654	8,759	11,630	12,525	8,063
NRCS conservation	1,917	3,521	2,720	2,676	3,245	3,632	3,757	3,793
Non-CCC emergency	711	1,096	0	0	0	0	0	0
Crop insurance	4,479	13,807	8,311	7,350	4,868	5,932	6,685	7,204
Total mandatory outlays	19,789	27,589	23,242	16,679	16,873	21,193	22,967	19,059

Notes: "NRCS Conservation" denotes mandatory spending on conservation programs authorized by the 2002, 2008 and 2014 farm bills that is not included in reported CCC outlays. Fiscal years begin on Oct.1 of the previous calendar year (FY 2016: Oct. 1, 2015-Sep. 30, 2016). The deterministic analysis used for these estimates is likely to yield lower costs for than would stochastic analysis, especially in FY 2019.

Selected direct government payments

Marketing year	02/03-11/12 Average	12/13	13/14	14/15	15/16	16/17	17/18	18/19
				(Million dollars)				
ARC payments	n.a.	n.a.	n.a.	4,408	6,435	5,841	2,258	656
PLC payments	n.a.	n.a.	n.a.	783	1,960	3,643	2,642	1,866
Marketing loans	1,243	0	0	388	331	137	37	32
Cotton transition payments	n.a.	n.a.	n.a.	490	n.a.	n.a.	n.a.	n.a.
Direct payments	5,083	4,790	4,702	n.a.	n.a.	n.a.	n.a.	n.a.
Countercyclical payments	1,496	0	0	n.a.	n.a.	n.a.	n.a.	n.a.
ACRE payments	49	212	277	n.a.	n.a.	n.a.	n.a.	n.a.
Total	7,871	5,002	4,979	6,069	8,725	9,621	4,936	2,554

Notes: Includes selected payments for feed grains, food grains, oilseeds, and upland cotton. The deterministic anlysis used for these estimates is likely to yield lower costs than would result from stochastic analysis, especially in 2017/18 and 2018/19.