Farm Sector Income & Finances 2016 Outlook

USDA Agricultural Outlook Forum 2016

By Ryan Kuhns and Kevin Patrick
February 25, 2016
Background

The Economic Research Service forecasts the farm sector’s income statement and balance sheet

Last released February 9th

Includes 2015 and 2016 forecasts of:

– Income statement
– Balance sheet
– Financial metrics
– Farm business-level outlook
Net cash income (NCI) forecast down 2.5% in 2016

$10.1B (2009 $)
$90.9B (nominal)

10-yr moving avg

F=forecast
The GDP chain-type price index is used to convert the current-dollar statistics to real (inflation adjusted) amounts (2009=100)
Crop receipts drive the expected decline in NCI from 2013 to 2016

Net cash income declined $44.2 billion from 2013 to 2016F

- Net cash income 2013: 135.1
- Crop receipts: -30.7
- Animals and products receipts: -4.8
- Cash farm-related income: -6.7
- Production Expenses: -4.9
- Government Payments: 2.9
- Net cash income 2016F: 90.9

All figures are in $ Billion
2016F crop receipts significantly lower than 2013, but flat from 2015

F= Forecast.
* Excluding corn and soybeans.
Data as of February 9, 2016.
Animal receipts are also expected to fall for most categories in 2016.
Government payments are forecast to rise over 30 percent in 2016

F= Forecast.
Government payments based on price are a larger share in 2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Fixed payments</th>
<th>Crop price based payments</th>
<th>All other payments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>Fixed direct payments and cotton transition payments.</td>
<td>PLC, ARC, ACRE, counter-cyclical payments, and other programs where payments vary with market prices.</td>
<td>Disaster relief payments, tobacco transition payments, dairy program payments, and conservation payments.</td>
</tr>
<tr>
<td>2010</td>
<td></td>
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<td></td>
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<tr>
<td>2011</td>
<td></td>
<td></td>
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<td>2012</td>
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<td>2013</td>
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<td>2014</td>
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<td></td>
</tr>
<tr>
<td>2015F</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016F</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

F = Forecast.

Cash expenses are expected to decline for the second consecutive year.
Feed, fuel, fertilizer, and livestock expenses drive decline in 2016

<table>
<thead>
<tr>
<th>Category</th>
<th>2015F</th>
<th>2016F</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feed</td>
<td>$58 b</td>
<td>$50 b</td>
<td>Decreased</td>
</tr>
<tr>
<td>Livestock &amp; poultry</td>
<td>$27 b</td>
<td>$26 b</td>
<td>Decreased</td>
</tr>
<tr>
<td>Fertilizer</td>
<td>$24 b</td>
<td>$22 b</td>
<td>Decreased</td>
</tr>
<tr>
<td>Fuels &amp; Oils</td>
<td>$18 b</td>
<td>$17 b</td>
<td>Decreased</td>
</tr>
<tr>
<td>Pesticides</td>
<td>$14 b</td>
<td>$13 b</td>
<td>Decreased</td>
</tr>
<tr>
<td>Labor</td>
<td>$30 b</td>
<td>$32 b</td>
<td>Increased</td>
</tr>
<tr>
<td>Net rent</td>
<td>$24 b</td>
<td>$25 b</td>
<td>Increased</td>
</tr>
<tr>
<td>Seeds</td>
<td>$19 b</td>
<td>$19 b</td>
<td>No change</td>
</tr>
<tr>
<td>Interest</td>
<td>$16 b</td>
<td>$16 b</td>
<td>No change</td>
</tr>
<tr>
<td>Property taxes/fees</td>
<td>$12 b</td>
<td>$12 b</td>
<td>No change</td>
</tr>
</tbody>
</table>

F = forecast
Farm Sector Balance Sheet Outlook
Forecast drop in net cash income drives lower farm real estate values*

F = Forecast. Values are adjusted using the chain-type GDP deflator, 2009=100.
*Real estate includes the value of land and buildings
Farm real estate* represents the majority of the sector’s assets

F= Forecast. Values are adjusted using the chain-type GDP deflator, 2009=100.  
*Real estate includes the value of land and buildings

Drop in 2016F farm real estate assets drive change in total assets

1.2% decline in real estate assets* from 2015F to 2016F

F = Forecast. *Real estate includes the value of land and buildings
Farm real estate and nonreal estate debt approaching historic levels

$ billion (2009 Dollars)

Real estate debt

Nonreal estate debt

F= Forecast. Values are adjusted using the chain-type GDP deflator, 2009=100.
But below the late ‘70s – early ‘80s peak in inflation-adjusted terms

F= Forecast. Values are adjusted using the chain-type GDP deflator, 2009=100.
Farm debt is forecast to grow rapidly from 2013 to 2016

12% growth forecast from 2013-2016F

27% growth forecast from 2013-2016F

F=Forecast

Sector leverage has increased since 2012, but remains historically low.

F= Forecast.
Rate of return on farm assets (ROA) expected to remain flat in 2016

F = forecast.
Rate of return on farm assets (ROA) expected to remain flat in 2016

Decomposing the rate of return on farm assets (ROA)

\[ ROA = \text{Asset Turnover Ratio} \]

Value of production
that assets generate

F = forecast.
Rate of return on farm assets (ROA) expected to remain flat in 2016

Decomposing the rate of return on farm assets (ROA)

\[ ROA = \text{Asset Turnover Ratio} \times \text{Profit Margin Ratio} \]

Value of production that assets generate

Profit margin on value of production

Lower profit margins drive decline in ROA from 2013 to 2016

F = forecast.
Farm businesses account for 45% of farms, but over 90% of production

Farms | Production | Assets | Debt
--- | --- | --- | ---

<table>
<thead>
<tr>
<th>Farm Businesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residence</td>
</tr>
<tr>
<td>Operators report they are retired or have a major occupation other than farming.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Intermediate</th>
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<tbody>
<tr>
<td>Gross cash farm income less than $350,000 and operators report farming as their major occupation.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Commercial</th>
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<tbody>
<tr>
<td>Gross cash farm income greater than $350,000 and farms organized as nonfamily corporations or cooperatives.</td>
</tr>
</tbody>
</table>

Source: 2014 Agricultural Resource Management Survey (ARMS)
Average net cash farm income up for most crop farm businesses

$ thousand

Cotton and rice  Specialty crops  Corn  Mixed grain  Soybeans and peanuts  Wheat

133  231  151  161  95  110

F = forecast.
1/ Farm business forecasts apply a partial budget model on the 2014 Agricultural Resource Management Survey (ARMS) using parameters from the sector forecasts. Data as of February 9, 2016.
Average net cash income expected to fall for most farm businesses specializing in animals and products ¹/

$ thousand

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</thead>
<tbody>
<tr>
<td>Hogs</td>
<td>400</td>
<td>398</td>
<td>400</td>
<td>398</td>
<td>398</td>
<td>398</td>
<td>398</td>
</tr>
<tr>
<td>Dairy</td>
<td>100</td>
<td>69</td>
<td>69</td>
<td>69</td>
<td>69</td>
<td>69</td>
<td>69</td>
</tr>
<tr>
<td>Poultry</td>
<td>98</td>
<td>98</td>
<td>98</td>
<td>98</td>
<td>98</td>
<td>98</td>
<td>98</td>
</tr>
<tr>
<td>Cattle and calves</td>
<td>55</td>
<td></td>
<td></td>
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</tr>
</tbody>
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F = forecast.
1/ Farm business forecasts apply a partial budget model on the 2014 Agricultural Resource Management Survey (ARMS) using parameters from the sector forecasts. Data as of February 9, 2016.
Farm business average net cash farm income by resource region, 2016F compared with 2015F

Percent change

Northern Crescent -10.0%
Northern Great Plains 2.5%
Heartland -0.1%
Eastern Uplands 1.6%
Mississippi Portal 7.2%
Southern Seaboard 2.0%
Prairie Gateway 7.0%
Basin and Range -2.2%
Fruitful Rim -4.7%

Note: F = forecast. The partial budget forecast model is based on the 2014 Agricultural Resource Management Survey (ARMS) using parameters from the sector forecasts. The model is static and does not account for changes in crop rotation, weather, and other location production impacts that occurred after the base year. Data as of February 9, 2016. Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.

All Farm Businesses $87,700 in 2016
Share of highly leveraged farm businesses forecast to increase in 2016

F = forecast.
Presentation takeaways

• Net cash income expected down slightly in 2016, but relatively flat from 2015.

• Large declines in net cash income since 2013 are driven by lower crop receipts paired with increasing expenses.

• Lower income is expected to put modest downward pressure on farm real estate asset values.
  – Changes in farm real estate asset values drive changes in total farm assets.

• Farm debt, particularly nonreal estate debt, has grown rapidly since 2013.

• Financial metrics indicate the farm sector remains in good standing.
  – An increasing but small group of farms is highly leveraged.
Additional analysis and data

Farm Sector Income and Wealth Statistics

Data product updated 3 times per year.
Next update: August 30th, 2016.

[Images of maps labeled: Historical State Estimates, Historical National Estimates, National Forecasts]

Explore the data

Visualizations let you dive into the financials of the farm sector

Get to Know Your State

Digging into the Farm Balance Sheet

Farm Income Atlas

QUESTIONS?

Ryan Kuhns
RNKuhns@ers.usda.gov

Kevin Patrick
KTPatrick@ers.usda.gov

Farm Income Team
farmincometeam@ers.usda.gov