ROOTS OF PROSPERITY
OUTLOOK FOR 2018

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Photo Credit: Harriet Taylor of CNBC News
Farmers’ sentiment is low compared to others, following corn prices down.

Real prices trend down, as ag productivity outstrips population growth

Corn price down 61%, soybeans by 47%, rice by 65%, and wheat by 68%.

Corn supply risen up 420%, soybeans by 1,116%, rice by 219%, and wheat by 222%.

Data: USDA, BLS.
Real net farm income falling

Real net farm income

Nominal net farm income

Data: USDA
What might improve income?

- Demand change:
  - Global GDP growth boosts demand
  - Dollar weakness boosts trade
  - Improved market access abroad

- Supply change:
  - Weather events
  - Less distorting int’l farm policy

- US Farm Policy
  - Current economic conditions
  - New farm bill—when?
IMF growth forecasts more optimistic

Data: IMF.
Income growth will drive increased global demand

Households w/ Real PPP incomes greater than $20,000 (millions)

- China: 151
- India: 150
- Indonesia: 28
- Russia: 7
- Mexico: 6
- Brazil: 6
- Egypt: 7
- Turkey: 5
- South Korea: 2
- Thailand: 6
- Philippines: 7
- Taiwan: 7
- Malaysia: 2
- Vietnam: 4
- Colombia: 1

2016 | Proj. gains by 2026

Data: Global Insight’s Global Consumer Markets data.
Dollar depreciating so far in 2018 versus customer currencies

% change Y-O-Y

- Canadian dollar
- Korea won
- Japan yen
- Mexico peso
- Taiwan dollar
- China yuan

Data: Thomson Reuters Datastream
Down versus most competitor currencies too

Data: Thomson Reuters Datastream
That should help maintain FY2018 ag exports

Data: USDA.
FTA’s account for large share of total U.S. ag exports

Data: USDA.
U.S. crop forecast

Photo source: www.farmanddairy.com/438028.html
Global ending stocks to continue relatively high, moderating price volatility

Data: USDA.
Some prices expected to edge up into 2018/19

<table>
<thead>
<tr>
<th>Crop</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018F</th>
<th>%Δ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat ($/bu)</td>
<td>5.99</td>
<td>4.89</td>
<td>3.89</td>
<td>4.60</td>
<td>4.70</td>
<td>2.2</td>
</tr>
<tr>
<td>Corn ($/bu)</td>
<td>3.70</td>
<td>3.61</td>
<td>3.36</td>
<td>3.30</td>
<td>3.40</td>
<td>3.0</td>
</tr>
<tr>
<td>Soybeans ($/bu)</td>
<td>10.10</td>
<td>8.95</td>
<td>9.47</td>
<td>9.30</td>
<td>9.25</td>
<td>-0.5</td>
</tr>
<tr>
<td>Cotton (cents/lb)</td>
<td>61.30</td>
<td>61.20</td>
<td>68.00</td>
<td>69.00</td>
<td>63.00</td>
<td>-8.7</td>
</tr>
<tr>
<td>All Rice ($/cwt)</td>
<td>13.40</td>
<td>12.20</td>
<td>10.40</td>
<td>12.50</td>
<td>11.90</td>
<td>-4.8</td>
</tr>
</tbody>
</table>

Data: USDA.
Corn prices rise slowly over next 10 years

Data: USDA
Prices +/- will depend on weather and economy

Corn Price Simulations

<table>
<thead>
<tr>
<th>Projections for 2020</th>
<th>Low Corn Price</th>
<th>High Corn Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn price ($/bu)</td>
<td>2.02</td>
<td>5.56</td>
</tr>
<tr>
<td>Yield (bu/acre)</td>
<td>196</td>
<td>158</td>
</tr>
<tr>
<td>Ending stocks (mils bu)</td>
<td>4,477</td>
<td>1,699</td>
</tr>
<tr>
<td>Soybean price ($/bu)</td>
<td>5.49</td>
<td>10.89</td>
</tr>
</tbody>
</table>

Data: USDA & FAPRI.
...and on other countries farm and trade policies

DDG/corn price ratio

- Biotech rejections
- AD/CVDs

Data: USDA.
… but farmers plant based on what they expect

Evolution of New Crop U.S. Soybean to Corn Price Ratio for Selected Years

2014  2016  2017  2018
## Corn and bean area at parity, wheat holding

<table>
<thead>
<tr>
<th>Crop (mil. acres)</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018F</th>
<th>%Δ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn</td>
<td>90.6</td>
<td>88.0</td>
<td>94.0</td>
<td>90.2</td>
<td>90.0</td>
<td>-0.2%</td>
</tr>
<tr>
<td>Soybeans</td>
<td>83.3</td>
<td>82.7</td>
<td>83.4</td>
<td>90.1</td>
<td>90.0</td>
<td>-0.1%</td>
</tr>
<tr>
<td>Wheat</td>
<td>56.8</td>
<td>55.0</td>
<td>50.1</td>
<td>46.0</td>
<td>46.5</td>
<td>1.1%</td>
</tr>
<tr>
<td>All cotton</td>
<td>11.0</td>
<td>8.6</td>
<td>10.1</td>
<td>12.6</td>
<td>13.3</td>
<td>5.6%</td>
</tr>
<tr>
<td>Other feedgrains</td>
<td>12.9</td>
<td>15.2</td>
<td>12.6</td>
<td>10.7</td>
<td>12.6</td>
<td>17.8%</td>
</tr>
<tr>
<td>Rice</td>
<td>3.0</td>
<td>2.6</td>
<td>3.2</td>
<td>2.5</td>
<td>2.9</td>
<td>16%</td>
</tr>
<tr>
<td>Total 8 crops</td>
<td>257.6</td>
<td>252.0</td>
<td>253.4</td>
<td>252.1</td>
<td>255.3</td>
<td>1.3%</td>
</tr>
</tbody>
</table>

Data: USDA.
Who’s buying now?
Global Import Share (2017/18)

**Soybeans**
- China: 65%
- Rest of World: 21%
- Mexico: 3%
- EU: 9%
- Japan: 2%

**Coarse Grains**
- Mexico: 9%
- China: 8%
- N. Afr/Mid-East: 22%
- Rest of World: 43%
- EU: 9%
- Japan: 9%

**Wheat**
- Rest of World: 36%
- Sub-Saharan Afr: 13%
- N. Afr/Mid-East: 29%
- Brazil: 4%
- FSU: 4%
- SE Asia: 14%

Data: USDA
Who will be buying?
Global Import Share (2027/28)

Soybeans
- China: 70%
- Rest of World: 19%
- Mexico: 2%
- EU: 7%
- Japan: 2%

Coarse Grains
- Mexico: 10%
- China: 10%
- Rest of World: 43%
- EU: 6%
- Japan: 7%
- N. Afr/Mid-East: 24%

Wheat
- Sub-Saharan Afr: 16%
- N. Afr/Mid-East: 29%
- Rest of World: 33%
- SE Asia: 14%
- Brazil: 4%
- FSU: 4%

Data: USDA
U.S. export share of global trade flattens

Data: USDA
Outlook for Livestock and Dairy
Meat and milk production to be record high in 2018

<table>
<thead>
<tr>
<th>Item</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018F</th>
<th>%Δ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef</td>
<td>24.3</td>
<td>23.7</td>
<td>25.2</td>
<td>26.2</td>
<td>27.7</td>
<td>5.9</td>
</tr>
<tr>
<td>Pork</td>
<td>22.8</td>
<td>24.5</td>
<td>24.9</td>
<td>25.6</td>
<td>26.9</td>
<td>5.1</td>
</tr>
<tr>
<td>Broilers</td>
<td>38.6</td>
<td>40.0</td>
<td>40.7</td>
<td>41.6</td>
<td>42.6</td>
<td>2.3</td>
</tr>
<tr>
<td>Total¹</td>
<td>92.2</td>
<td>94.6</td>
<td>97.6</td>
<td>100.1</td>
<td>103.9</td>
<td>3.8</td>
</tr>
<tr>
<td>Milk</td>
<td>206.1</td>
<td>208.6</td>
<td>212.4</td>
<td>215.4</td>
<td>218.7</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Data: USDA-OCE. Data in red denote record levels. ¹ Total red meat and poultry
Beef production is projected to continue to rise

Data: USDA
Percent of Southern Plains* In D3-D4 Drought

September 13, 2011: 83.3%
February 13, 2018: 16.5%

* Kansas, Oklahoma, and Texas

U.S. Drought Monitor, Sept 2013 and Feb 2018
Livestock, poultry, and milk prices were higher in 2017, but will decline in 2018

<table>
<thead>
<tr>
<th>Item</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
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<th>%Δ</th>
</tr>
</thead>
</table>
| Dollars per cwt
| Steers | 154.56 | 148.12 | 120.86 | 121.52 | 119.25 | -1.9 |
| Hogs   | 76.03  | 50.23  | 46.16  | 50.48  | 48.00  | -4.9 |
| Broilers | 104.9 | 90.5   | 84.3   | 93.5   | 90.8   | -2.9 |
| Milk   | 23.97  | 17.13  | 16.30  | 17.63  | 16.05  | -9.0 |

Data: USDA.

Prices in red denote record levels.
Export volumes rise over time

Data: USDA.
Status of the Farm Economy
Working capital falling

Assets (left axis)

Working Capital (right axis)

Debt (left axis)

Data: USDA.
Debt-to-asset ratios vary by sector

% of farm businesses

Very highly leveraged (dta > 0.71)

Highly leveraged (0.41 < dta > 0.70)

Cotton
Wheat
Corn
Soybeans
All other crops
Cattle and calves
Hogs
Poultry
Dairy
Other livestock

Data: USDA.
Borrowing continuing to rise

Data: USDA.
Debt-to-assets remain low, but interest payments rising

Data: USDA.
The share of non-performing loans is rising

Data: Federal Reserve Board of Governors
Farm bankruptcy remains low

Source: USDA-ERS.
Farm programs and changes
Crop insurance increasing in importance

Source: USDA.
Crop insurance indemnities reflect location of 2017 natural disasters.
Projected Farm Bill spending by commodity

Source: CBO.
80 percent generic base acres > 2009-2012 average for upland cotton planted acres

Data: USDA.
Increased MPP payments to dairy producers

Note: Payments at $8 are annual payments/cwt to producers with margin coverage at $8. Data: USDA.
Conclusion

1. Total meat and milk production reach record highs in 2018.
2. Strong global GDP and weak dollar maintains exports this year.
4. Net farm income is forecast down and projected to fall in real terms.
5. The 2018 Bipartisan Budget Act will extend farm safety net programs for cotton and dairy and provide additional assistance to producers facing losses from 2017 disasters.
Thank you!