Outlook for Agriculture: U.S. and 5th District

Nate Kauffmann, Federal Reserve Bank of Kansas City
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The views expressed here are those of the speaker and do not necessarily reflect the opinions of the Federal Reserve Bank of Kansas City or the Federal Reserve System.
Outlook Summary

• Agriculture has expanded significantly in recent decades, but had been in a downturn in the years prior to the pandemic.

• The pandemic has exacerbated the pressures in agriculture, but government support has mitigated some financial stress.

• Looking ahead, low ag prices are likely to remain a headwind.
A significant portion of the rural U.S. is still connected to agriculture.

**Sources:** BEA and staff calculations.

**Diagram:** Farm Income-to-Total Income

Legend:
- Less than 1
- 1-3
- 3-6
- 6-10
- Greater than 10
U.S. agricultural production has expanded dramatically over the past two decades.

Value of U.S. Ag Production

<table>
<thead>
<tr>
<th>Year</th>
<th>Billion dollars, 2020 $</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>300</td>
</tr>
<tr>
<td>2020F</td>
<td>390 (+29%)</td>
</tr>
</tbody>
</table>

U.S. Ag Exports and Ethanol Production

<table>
<thead>
<tr>
<th>Year</th>
<th>Exports (Left)</th>
<th>Ethanol (Right)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>60</td>
<td>10</td>
</tr>
<tr>
<td>2020F</td>
<td>80 (+82%)</td>
<td>120 (+750%)</td>
</tr>
</tbody>
</table>

*Annual exports estimated based on annual change through July 2020. Annual ethanol production based on EIA forecast.

Source: USDA, EIA and staff calculations.
In recent years, however, the U.S. ag sector had been in a prolonged downturn even before the pandemic.

**U.S. Personal Income**

<table>
<thead>
<tr>
<th>Year</th>
<th>Non-Farm (Left)</th>
<th>Farm (Right)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>10.0</td>
<td>15.0</td>
</tr>
<tr>
<td>2011</td>
<td>12.0</td>
<td>18.0</td>
</tr>
<tr>
<td>2012</td>
<td>14.0</td>
<td>20.0</td>
</tr>
<tr>
<td>2013</td>
<td>16.0</td>
<td>22.0</td>
</tr>
<tr>
<td>2014</td>
<td>18.0</td>
<td>24.0</td>
</tr>
<tr>
<td>2015</td>
<td>20.0</td>
<td>26.0</td>
</tr>
<tr>
<td>2016</td>
<td>22.0</td>
<td>28.0</td>
</tr>
<tr>
<td>2017</td>
<td>24.0</td>
<td>30.0</td>
</tr>
<tr>
<td>2018</td>
<td>26.0</td>
<td>32.0</td>
</tr>
<tr>
<td>2019</td>
<td>28.0</td>
<td>34.0</td>
</tr>
<tr>
<td>2020*</td>
<td>30.0</td>
<td>36.0</td>
</tr>
</tbody>
</table>

**Ag Prices Received-to-Prices Paid**

<table>
<thead>
<tr>
<th>Year</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>80</td>
</tr>
<tr>
<td>2012</td>
<td>85</td>
</tr>
<tr>
<td>2014</td>
<td>90</td>
</tr>
<tr>
<td>2016</td>
<td>95</td>
</tr>
<tr>
<td>2018</td>
<td>100</td>
</tr>
<tr>
<td>2020**</td>
<td>105</td>
</tr>
</tbody>
</table>

*Annual average through Q2 2020
**Annual average through July 2020

**Sources:** U.S. Bureau of Economic Analysis, USDA and Haver Analytics.
Across the country, farm income has remained low, despite expectations for a slight increase in 2020.

Note: 2020 forecast not available for individual states.
*Forecast
Source: USDA.
Exacerbated by the pandemic, persistently low ag prices have been a primary headwind.

Agricultural Commodity Prices

Percent change since 2010

Sources: CME, WSJ and Haver Analytics.
In the Richmond District, poultry accounts for a large share of the agricultural base.

**5th District - Ag Commodity Concentrations: 2019**

*Top Commodity (% of Sales)*

- Broilers: 43
- Turkeys: 40
- Chicken Eggs: 35
- Hogs: 25
- Corn: 32
- Cattle: 11
- Soybeans: 5
- Tobacco: 3
- Dairy: 4
- Cotton: 3
- All Others: 11

*Commodity Concentrations (% of Sales)*

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- All Others: 11

Sources: USDA and staff calculations.
Similar to the nation, agricultural prices in the region generally have been low in recent years.

Sources: USDA, Haver Analytics, and staff calculations.
The pandemic further disrupted agricultural markets in several key ways.

Sources: USDA, EIA and staff calculations.
But government payments are likely to mitigate much of the underlying financial weaknesses this year.

Coronavirus Food Assistance Program 1 (CFAP) Payments

CFAP 1 Payments by Commodity

Share of 2019 Farm Income (%)
- Less than 5
- 5 to 10
- 10 to 15
- 15 to 25
- More than 25

Note: As of September 8, 2020.
Sources: USDA and staff calculations.
The stability of farm real estate values has also provided broad support to the ag sector.

Farm Real Estate Values

*Weighted by share of value of agricultural production for each state in District.

Sources: USDA and staff calculations.
More recently, a strengthening export market has provided some support to agricultural markets.

Sources: USDA and staff calculations.
Concluding Thoughts

• The potential for severe difficulties in agriculture associated with the pandemic has lessened, for now.

• Concerns appear likely to reemerge in early 2021, however, as low agricultural commodity prices weigh on producer finances.