DISTRIBUTION OF FARM INCOME BY SIZE AND TYPE

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AAE 320
Overview

• Most common USDA data on farm income and farm economy is always the averages
• Let’s look at the distribution around these averages
• How do “small” farms do relative to larger farms?
Farms, land in farms, and average acres per farm, 1850-2017

Million farms, billion acres, or 100 acres per farm

Peak of 6.8 million in 1935

Average farm size (100 acres per farm)

2.05 million in 2017

Gross farm income, production expenses, and net farm income, inflation adjusted, 2000-18F

$ billion (2018)

Note: F = forecast. Values are adjusted for inflation using the chain-type GDP deflator, 2018=100.
Net farm income and net cash farm income, 2000-18F

Note: F = forecast.
Gross cash farm income components, inflation adjusted, 2000-18F

$ billion (2018)

Government direct farm program payments

Farm-related cash income

Animals and products (cash receipts)

Crops (cash receipts)

Note: F = forecast. Values are adjusted for inflation using the chain-type GDP deflator, 2018=100.

2017 crop cash receipts ($ billion, nominal)

$198.3 billion total receipts

- Corn: $47.0
- Soybeans: $40.6
- Fruits and nuts: $31.1
- Vegetables and melons: $19.9
- Wheat: $8.5
- Hay: $6.5
- Cotton: $7.8
- All other crops: $36.9

Data as of August 30, 2018.

2017 animals and products cash receipts ($ billion, nominal)

$176.0 billion total receipts

- Cattle and calves: $67.4 billion
- Dairy: $37.9 billion
- Hogs: $21.1 billion
- Poultry and eggs: $42.7 billion
- Other animals/products: $7.0 billion

Data as of August 30, 2018.

Farms and their value of production by ERS farm type, 2016

Percent of U.S. farms or production

<table>
<thead>
<tr>
<th>Farm Type</th>
<th>Share of Farms</th>
<th>Share of Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small (GCFI less than $350,000)</td>
<td>22.6</td>
<td>89.9</td>
</tr>
<tr>
<td>Midsize (GCFI $350,000 to $999,999)</td>
<td>6.0</td>
<td>22.7</td>
</tr>
<tr>
<td>Large-scale (GCFI $1,000,000 or more)</td>
<td>1.2</td>
<td>45.3</td>
</tr>
<tr>
<td>Nonfamily</td>
<td>9.6</td>
<td></td>
</tr>
</tbody>
</table>


### Table: Farm Size Categories

<table>
<thead>
<tr>
<th>Size</th>
<th>GCFI Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small</td>
<td>GCFI &lt; $350,000</td>
</tr>
<tr>
<td>Midsize</td>
<td>GCFI $350,000 - $999,999</td>
</tr>
<tr>
<td>Large-scale</td>
<td>GCFI $1,000,000 - $4,999,999</td>
</tr>
<tr>
<td>Very large</td>
<td>GCFI $\geq$ 5,000,000</td>
</tr>
</tbody>
</table>

Non-Family Farms: 25,000 (1.2%)

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**Small Family Farms (GCFI less than $350,000)**

- **Retirement farms.** Small farms whose principal operators report they are retired, although they continue to farm on a small scale (366,812 farms; 17.9% of U.S. farms in 2016).

- **Off-farm occupation farms.** Small farms whose principal operators report a major occupation other than farming (860,739 farms; 41.9% of U.S. farms).

- **Farming-occupation farms.** Small farms whose principal operators report farming as their major occupation.
  - **Low-sales.** GCFI less than $150,000 (506,001 farms; 24.7% of U.S. farms).
  - **Moderate-sales.** GCFI between $150,000 and $349,999 (110,524 farms; 5.4% of U.S. farms).

### Farm Size

<table>
<thead>
<tr>
<th>Farm Size</th>
<th>% of Farms</th>
<th>% of Land</th>
<th>% of Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small</td>
<td>89.9%</td>
<td>50.6%</td>
<td>22.6%</td>
</tr>
<tr>
<td>Mid-Sized</td>
<td>6.0%</td>
<td>21.2%</td>
<td>22.7%</td>
</tr>
<tr>
<td>Large Scale</td>
<td>2.9%</td>
<td>18.0%</td>
<td>45.2%</td>
</tr>
<tr>
<td>Non-Family</td>
<td>1.2%</td>
<td>10.3%</td>
<td>9.6%</td>
</tr>
</tbody>
</table>

- Most of the Farms and Land are small family farms
- Large scale family farms use 18.0% of the land to produce 45.2% of the production value
- Small family farms use 50.6% of the land to produce 22.6% of the production value

### % of Farms by Farm Type

<table>
<thead>
<tr>
<th>Farm Type</th>
<th>% Farms</th>
<th>Category</th>
<th>Gross Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retirement</td>
<td>17.9%</td>
<td>Small</td>
<td>&lt; $350k</td>
</tr>
<tr>
<td>Off Farm Job</td>
<td>41.9%</td>
<td>Small</td>
<td>&lt; $350k</td>
</tr>
<tr>
<td>Low Sales</td>
<td>24.7%</td>
<td>Small</td>
<td>&lt; $150k</td>
</tr>
<tr>
<td>Moderate Sales</td>
<td>5.4%</td>
<td>Small</td>
<td>$150k - $350k</td>
</tr>
<tr>
<td>Mid-Sized</td>
<td>6.0%</td>
<td>Mid-Sized</td>
<td>$350k-$1 million</td>
</tr>
<tr>
<td>Large</td>
<td>2.6%</td>
<td>Large</td>
<td>$1 - $5 million</td>
</tr>
<tr>
<td>Very Large</td>
<td>0.3%</td>
<td>Large</td>
<td>&gt; $5 million</td>
</tr>
<tr>
<td>Non-Family</td>
<td>1.2%</td>
<td>Non-Family</td>
<td>Non-Family</td>
</tr>
</tbody>
</table>

Value of production for selected commodities by farm type, 2016

Percent of value of production

- **Poultry, excluding eggs**
  - Small family farms: 58.7%
  - Midsize family farms: 50.2%
  - Large-scale family farms: 16.4%
  - Nonfamily farms: 25.5%

- **Hay**
  - Small family farms: 29.4%
  - Midsize family farms: 18.4%
  - Large-scale family farms: 39.4%
  - Nonfamily farms: 5.1%

- **Beef**
  - Small family farms: 49.6%
  - Midsize family farms: 22.7%
  - Large-scale family farms: 35.0%
  - Nonfamily farms: 18.7%

- **Hogs**
  - Small family farms: 59.6%
  - Midsize family farms: 21.9%
  - Large-scale family farms: 23.2%
  - Nonfamily farms: 4.4%

- **Cash grains and soybeans**
  - Small family farms: 67.0%
  - Midsize family farms: 11.3%
  - Large-scale family farms: 12.8%
  - Nonfamily farms: 8.9%

- **Cotton**
  - Small family farms: 45.2%
  - Midsize family farms: 22.7%
  - Large-scale family farms: 22.6%
  - Nonfamily farms: 10.8%

- **Dairy**
  - Small family farms: 64.3%
  - Midsize family farms: 64.3%
  - Large-scale family farms: 64.3%
  - Nonfamily farms: 64.3%

- **High-value crops**
  - Small family farms: 16.7%
  - Midsize family farms: 16.7%
  - Large-scale family farms: 16.7%
  - Nonfamily farms: 16.7%

- **All**
  - Small family farms: 20.6%
  - Midsize family farms: 20.6%
  - Large-scale family farms: 20.6%
  - Nonfamily farms: 20.6%

Note: Totals may not add to 100.0 percent, due to rounding. **High-value crops** include vegetables, fruits/tree nuts, and nursery/greenhouse products.
Farms by operating profit margin (OPM) and farm type, 2016

Percent of farms in each group

100%
100
75
50
25
0

Retirement
Off-farm occupation
Low-sales
Moderate-sales
Midsize
Large
Very large
Nonfamily farms
All farms

Small
Large-scale

OPM
Red zone
Yellow zone
Green zone
High risk level
Medium risk level
Low risk level

10%
25%

Ratio not calculated

Note: Totals may not add to 100.0 percent, due to rounding. Operating profit margin (OPM) = 100 X (net farm income + interest paid – charges for unpaid labor and management) ÷ gross farm income.

Median household income of farm operators by source and sales class, 2016

Median income (dollars per household)

- Farms with sales less than $10,000 account for 50% of all farms, but only 1% of production
- All-farm median household income ($76,250)
- U.S. median household income ($59,039)

Sales* class

- Less than $10,000
- $10,000 to $349,999
- $350,000 to $999,999
- $1,000,000 or more

*Sales = Annual gross cash farm income before expenses (the sum of the farm's crop and livestock sales, government payments, and other cash farm-related income).


Median Household Income by Farm Type

Median operator household income by farm type, 2016


Note: Operator household income is not estimated for nonfamily farms. Operator household income includes both farm and off-farm income received by household members.
## Average (mean) farm operator household income by source and farm type, 2016

<table>
<thead>
<tr>
<th>Farm type</th>
<th>Total average income</th>
<th>Income from farming</th>
<th>From off-farm sources</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dollars per household</td>
<td>Amount</td>
<td>Negative Percent of households</td>
</tr>
<tr>
<td>Small family farms</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retirement</td>
<td>83,512</td>
<td>4,705</td>
<td>54.6</td>
</tr>
<tr>
<td>Off-farm occupation</td>
<td>127,784</td>
<td>-1,513</td>
<td>66.3</td>
</tr>
<tr>
<td>Farming-occupation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low-sales</td>
<td>60,074</td>
<td>-1,086</td>
<td>54.4</td>
</tr>
<tr>
<td>Moderate-sales</td>
<td>102,130</td>
<td>50,720</td>
<td>21.2</td>
</tr>
<tr>
<td>Midsize family farms</td>
<td>185,684</td>
<td>119,140</td>
<td>16.9</td>
</tr>
<tr>
<td>Large-scale family farms</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Large family farms</td>
<td>422,261</td>
<td>357,203</td>
<td>11.6</td>
</tr>
<tr>
<td>Very large family farms</td>
<td>1,737,715</td>
<td>1,674,839</td>
<td>13.9</td>
</tr>
<tr>
<td>All family farms</td>
<td>117,918</td>
<td>24,731</td>
<td>54.2</td>
</tr>
</tbody>
</table>

Summary

- Most of the focus is on averages for farm income
- The reality is that there is a lot of variation around the average and median
  - Many farmers do better and many do worse and it varies from year to year