2003 Michigan Upper Peninsula Dairy Business Analysis Summary

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By

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Executive Summary

This report summarizes the financial and production records of 19 dairy farms across the Upper Peninsula (UP) of Michigan. To be included, the farms must have produced at least 50 percent of gross cash farm income from milk and dairy animal sales. The farms in this report were located throughout Michigan. The records came from Michigan State University’s TelFarm/MicroTel project, the Farm Credit Service system, or by AgriSolutions in Michigan. The values were pooled into averages for reporting purposes. Farm records checked for accuracy. While considerable variation in the data exists, average values are reported in the summary tables and discussion that follows.

In 2003, the average UP dairy farm in the business analysis had 135 cows producing an average of 18,804 pounds of milk per cow (Table 1). Milk price, based on gross income, averaged $12.69/cwt. The total average acres owned were 642 and the average cropped acres were 808.

<table>
<thead>
<tr>
<th>Table 1. Ave. 2003 Michigan UP Dairy Farm Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average number of cows</td>
</tr>
<tr>
<td>Milk sold per cow (pounds)</td>
</tr>
<tr>
<td>Average price of milk sold ($/cwt)</td>
</tr>
<tr>
<td>Total acres owned</td>
</tr>
<tr>
<td>Total crop acres</td>
</tr>
<tr>
<td>Number of farms</td>
</tr>
</tbody>
</table>

Net farm income is the return to operator unpaid management, labor and capital invested. Net farm income in 2003 averaged $45,742 (Table 2). This average somewhat obscures a very large range of net farm income values. The median was $23,700 and the standard deviation was $68,699 for all 19 dairy farms.

<table>
<thead>
<tr>
<th>Table 2. Average 2003 Michigan Dairy Grazing Farm Income Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Gross cash farm income</td>
</tr>
<tr>
<td>Total cash expense</td>
</tr>
<tr>
<td>Net cash farm income</td>
</tr>
<tr>
<td>Inventory change*</td>
</tr>
<tr>
<td>Depreciation and capital adjustments*</td>
</tr>
<tr>
<td>Net farm income</td>
</tr>
</tbody>
</table>

*Changes calculated as ending value minus beginning value.
Gross cash farm income averaged $411,907 in 2003. The largest component of these revenues was milk sales, which averaged $298,640. The second largest revenue was government payments at $37,111. Average total cash expenses were $319,825 and average net cash farm income was $92,082. Inventory changes were a $2,988 while depreciation and capital adjustments averaged a negative $49,328. The net farm income value is the return to operator unpaid management, labor and capital invested averaged $45,742 in 2003, (Table 2).

To put the profit values in perspective, we calculate profitability ratios. Rate of return on assets (ROA) is the farm operating profit (equal to net farm income plus interest expense less value of operator labor and management) divided by average total farm asset value (valued at current market value). Rate of return on assets is a measure of how much profit the farm business assets generated. The average 2003 dairy farm ROA (Market) was 2.9 percent, which was an improved over 2002, 2001, and 2000, (Table 3). Return on equity tells a similar story. Operating profit margin is the operating profit (as defined in ROA above) divided by gross revenues. Operating profit margin measures the dollars of profit generated per dollar of revenue. In 2003, Michigan’s UP dairy farms generated 12.8 cents of profit per dollar of revenue. Asset turnover is the gross farm revenues divided by average asset value. Asset turnover measures the efficiency with which farm assets generate revenue. This value declined slightly in 2003 to an average of 22.7 percent.

### Table 3. Average Michigan UP Dairy Farm Profitability Indicators, 2000-2003

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate of return on assets*</td>
<td>-0.8</td>
<td>2.8</td>
<td>-1.9</td>
<td>2.9</td>
</tr>
<tr>
<td>Rate of return on equity</td>
<td>-8.0</td>
<td>0.1</td>
<td>-7.0</td>
<td>2.5</td>
</tr>
<tr>
<td>Operating profit margin</td>
<td>-2.0</td>
<td>6.4</td>
<td>-4.7</td>
<td>12.8</td>
</tr>
<tr>
<td>Asset turnover rate*</td>
<td>41.0</td>
<td>44.2</td>
<td>41.4</td>
<td>22.7</td>
</tr>
</tbody>
</table>

* Assets valued at market value (rather than cost).

### Per Unit Income and Expenses

Table 4 displays average income and expenses items per hundredweight (cwt.) of milk and per cow across 19 UP dairy farms. Both income and expenses were adjusted to an accrual basis where detailed financial information was provided. Average, accrual adjusted income and expenses per cropped acre are also included.

Income items related to the dairy herd are included in the first section. Government payments include all farm government payments—not just those related to the dairy herd. It was not possible to separate crop payments from dairy payments. Given the low milk prices in 2003, a large portion of government payments were likely in the form of the Milk Income Loss Contract (MILC). *This table should not be interpreted as an estimate of the true cost of producing milk.* All farm sales are not included in the income items—only those that are related to the milking herd. Also, unpaid factors, including labor, management and capital, are not accounted for in the expense.
items. In addition, the allocation of resources amongst farm enterprises is not accurately reflected leaving the milking herd as the residual claimant on all expenses (especially labor costs).

The largest expense was purchased feed at $3.89/cwt. and hired labor was the second largest at $2.16/cwt. Depreciation, livestock supplies, repairs and milk marketing and trucking combined were also significant expenses for 2003.

The bottom of Tables 4 presents crop related expenses divided by the total cropped acres. To accurately calculate a crop cost of production requires labor and management (among other) expenses that were not separated out in the financial records.
Table 4. Average income and expenses across all farms*, 2003

<table>
<thead>
<tr>
<th>Income Items:</th>
<th>Per cwt.</th>
<th>Per Cow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk</td>
<td>$12.69</td>
<td>$2,377.84</td>
</tr>
<tr>
<td>Cull Cows and Calves</td>
<td>$0.83</td>
<td>$149.13</td>
</tr>
<tr>
<td>Dairy Steers</td>
<td>$1.09</td>
<td>$186.78</td>
</tr>
<tr>
<td>Dairy Heifers</td>
<td>$0.06</td>
<td>$11.39</td>
</tr>
<tr>
<td>Government Payments</td>
<td>$1.58</td>
<td>$290.86</td>
</tr>
<tr>
<td>Patronage Dividends, cash</td>
<td>$0.02</td>
<td>$5.32</td>
</tr>
<tr>
<td>Crop Sales</td>
<td>$0.18</td>
<td>$35.70</td>
</tr>
<tr>
<td>Other Cash Income</td>
<td>$0.89</td>
<td>$147.83</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Expense Items:</th>
<th>Per cwt.</th>
<th>Per Cow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchased Feeds</td>
<td>$3.89</td>
<td>$741.66</td>
</tr>
<tr>
<td>Breeding Fees</td>
<td>$0.11</td>
<td>$21.79</td>
</tr>
<tr>
<td>Veterinary</td>
<td>$0.31</td>
<td>$60.60</td>
</tr>
<tr>
<td>BST</td>
<td>$0.06</td>
<td>$12.61</td>
</tr>
<tr>
<td>Livestock Supplies</td>
<td>$0.80</td>
<td>$144.09</td>
</tr>
<tr>
<td>Milk &amp; Livestock Mkt. &amp; Trucking</td>
<td>$0.69</td>
<td>$129.78</td>
</tr>
<tr>
<td>Interest</td>
<td>$0.54</td>
<td>$100.26</td>
</tr>
<tr>
<td>Fuel and Oil</td>
<td>$0.59</td>
<td>$106.47</td>
</tr>
<tr>
<td>Repairs</td>
<td>$1.04</td>
<td>$185.50</td>
</tr>
<tr>
<td>Custom Hire</td>
<td>$0.18</td>
<td>$37.47</td>
</tr>
<tr>
<td>Hired Labor</td>
<td>$2.16</td>
<td>$405.83</td>
</tr>
<tr>
<td>Leases</td>
<td>$0.11</td>
<td>$20.44</td>
</tr>
<tr>
<td>Real Estate Taxes</td>
<td>$0.32</td>
<td>$56.04</td>
</tr>
<tr>
<td>Farm Insurance</td>
<td>$0.27</td>
<td>$48.83</td>
</tr>
<tr>
<td>Utilities</td>
<td>$0.41</td>
<td>$74.78</td>
</tr>
<tr>
<td>Dues, Professional Fees</td>
<td>$0.15</td>
<td>$29.03</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>$0.23</td>
<td>$43.12</td>
</tr>
<tr>
<td>Machinery Depreciation</td>
<td>$1.41</td>
<td>$254.92</td>
</tr>
<tr>
<td>Building Depreciation</td>
<td>$0.63</td>
<td>$113.07</td>
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</table>

<table>
<thead>
<tr>
<th>Expense Items per Cropped Acre:</th>
<th>Per Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seed</td>
<td>$11.37</td>
</tr>
<tr>
<td>Fertilizer</td>
<td>$17.05</td>
</tr>
<tr>
<td>Crop Chemicals</td>
<td>$9.44</td>
</tr>
<tr>
<td>Crop Insurance</td>
<td>$0.05</td>
</tr>
<tr>
<td>Crop Miscellaneous</td>
<td>$2.41</td>
</tr>
<tr>
<td>Land Rent</td>
<td>$12.69</td>
</tr>
</tbody>
</table>

* All income and expense items averaged across all 19 UP dairy farms whether they had this income or expense item or not. Other cash income includes custom work, insurance claims, and miscellaneous income.
Table 5  
Crop Production and Marketing Summary  
Michigan Upper Peninsula Dairy Farms, 2003  
(Farms Sorted By Rate of Return on Assets - Mkt)

<table>
<thead>
<tr>
<th></th>
<th>Avg. Of</th>
<th></th>
<th>High 25%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All Farms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dairy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of farms</td>
<td>19</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Average number of Cows</td>
<td>135</td>
<td></td>
<td>186</td>
</tr>
<tr>
<td>Milk production per Cow, lbs.</td>
<td>18804</td>
<td></td>
<td>19714</td>
</tr>
<tr>
<td>Average milk price per cwt.,</td>
<td>$12.69</td>
<td></td>
<td>$12.59</td>
</tr>
<tr>
<td>Acreage Summary</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total acres owned</td>
<td>642</td>
<td></td>
<td>1,090</td>
</tr>
<tr>
<td>Total crop acres</td>
<td>808</td>
<td></td>
<td>1,290</td>
</tr>
<tr>
<td>Crop acres owned</td>
<td>495</td>
<td></td>
<td>910</td>
</tr>
<tr>
<td>Crop acres cash rented</td>
<td>313</td>
<td></td>
<td>380</td>
</tr>
<tr>
<td>Crop acres share rented</td>
<td>-</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>Total pasture acres</td>
<td>-</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>Average Price Received (Cash Sales Only)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hay, Alfalfa per ton</td>
<td>42.53</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Avg. Of</td>
<td></td>
<td>High 25%</td>
</tr>
<tr>
<td>---------------------------</td>
<td>---------</td>
<td>---------------</td>
<td>------------</td>
</tr>
<tr>
<td></td>
<td>All Farms</td>
<td>High 25%</td>
<td></td>
</tr>
<tr>
<td>Number of farms</td>
<td>19</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Cash Farm Income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corn</td>
<td>193</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Hay, Alfalfa</td>
<td>976</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Hay, Mixed</td>
<td>1,491</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Straw</td>
<td>218</td>
<td>-</td>
<td></td>
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<tr>
<td>Dairy, Milk</td>
<td>298,640</td>
<td>414,305</td>
<td></td>
</tr>
<tr>
<td>Dairy, Dairy Calves</td>
<td>2,254</td>
<td>4,106</td>
<td></td>
</tr>
<tr>
<td>Dairy Heifers (for sale)</td>
<td>789</td>
<td>1,565</td>
<td></td>
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<tr>
<td>Dairy Steers</td>
<td>3,439</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Cull breeding livestock</td>
<td>16,753</td>
<td>25,228</td>
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<tr>
<td>Misc. livestock income</td>
<td>22,078</td>
<td>40,581</td>
<td></td>
</tr>
<tr>
<td>Direct &amp; CC govt payments</td>
<td>580</td>
<td>-</td>
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<tr>
<td>Other government payments</td>
<td>37,111</td>
<td>56,670</td>
<td></td>
</tr>
<tr>
<td>Custom work income</td>
<td>6,551</td>
<td>21,446</td>
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</tr>
<tr>
<td>Patronage dividends, cash</td>
<td>349</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Insurance income</td>
<td>7,253</td>
<td>19,076</td>
<td></td>
</tr>
<tr>
<td>Other farm income</td>
<td>13,231</td>
<td>29,296</td>
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<tr>
<td>Gross Cash Farm Income</td>
<td>411,907</td>
<td>612,274</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Avg. Of</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------</td>
<td>---------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td></td>
<td>All Farms</td>
<td>High 25%</td>
<td></td>
</tr>
<tr>
<td>Number of farms</td>
<td>19</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Cash Farm Expense</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seed</td>
<td>7,690</td>
<td>11,834</td>
<td></td>
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<tr>
<td>Fertilizer</td>
<td>13,258</td>
<td>19,127</td>
<td></td>
</tr>
<tr>
<td>Crop chemicals</td>
<td>5,223</td>
<td>9,922</td>
<td></td>
</tr>
<tr>
<td>Crop custom hire</td>
<td>4,915</td>
<td>10,578</td>
<td></td>
</tr>
<tr>
<td>Crop miscellaneous</td>
<td>432</td>
<td>850</td>
<td></td>
</tr>
<tr>
<td>Purchased feed</td>
<td>93,202</td>
<td>132,215</td>
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</tr>
<tr>
<td>Breeding fees</td>
<td>2,581</td>
<td>2,810</td>
<td></td>
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<tr>
<td>Veterinary</td>
<td>7,162</td>
<td>7,327</td>
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</tr>
<tr>
<td>BST</td>
<td>1,456</td>
<td>3,300</td>
<td></td>
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<tr>
<td>Livestock supplies</td>
<td>17,199</td>
<td>28,153</td>
<td></td>
</tr>
<tr>
<td>Livestock hauling and trucking</td>
<td>9,344</td>
<td>11,463</td>
<td></td>
</tr>
<tr>
<td>Marketing</td>
<td>5,045</td>
<td>5,524</td>
<td></td>
</tr>
<tr>
<td>Bedding</td>
<td>1,761</td>
<td>4,486</td>
<td></td>
</tr>
<tr>
<td>Livestock miscellaneous</td>
<td>52</td>
<td>176</td>
<td></td>
</tr>
<tr>
<td>Interest</td>
<td>15,194</td>
<td>22,939</td>
<td></td>
</tr>
<tr>
<td>Fuel &amp; oil</td>
<td>14,586</td>
<td>21,759</td>
<td></td>
</tr>
<tr>
<td>Repairs</td>
<td>23,574</td>
<td>36,897</td>
<td></td>
</tr>
<tr>
<td>Custom hire</td>
<td>4,426</td>
<td>8,616</td>
<td></td>
</tr>
<tr>
<td>Hired labor</td>
<td>50,006</td>
<td>77,407</td>
<td></td>
</tr>
<tr>
<td>Land rent</td>
<td>8,153</td>
<td>10,388</td>
<td></td>
</tr>
<tr>
<td>Machinery &amp; bldg leases</td>
<td>2,657</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Real estate taxes</td>
<td>7,868</td>
<td>13,216</td>
<td></td>
</tr>
<tr>
<td>Farm insurance</td>
<td>6,092</td>
<td>9,265</td>
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</tr>
<tr>
<td>Utilities</td>
<td>8,619</td>
<td>10,927</td>
<td></td>
</tr>
<tr>
<td>Hauling and trucking</td>
<td>413</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Dues &amp; professional fees</td>
<td>3,963</td>
<td>4,654</td>
<td></td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>4,953</td>
<td>3,714</td>
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</tr>
<tr>
<td>Total cash expense</td>
<td>319,825</td>
<td>467,547</td>
<td></td>
</tr>
<tr>
<td>Net cash farm income</td>
<td>92,082</td>
<td>144,727</td>
<td></td>
</tr>
<tr>
<td>Inventory Changes</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Crops and feed</td>
<td>4,941</td>
<td>30,511</td>
<td></td>
</tr>
<tr>
<td>Market livestock</td>
<td>-4,757</td>
<td>-9,100</td>
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</tr>
<tr>
<td>Accounts receivable</td>
<td>2,426</td>
<td>6,354</td>
<td></td>
</tr>
<tr>
<td>Prepaid expenses and supplies</td>
<td>568</td>
<td>-2,123</td>
<td></td>
</tr>
<tr>
<td>Accounts payable</td>
<td>-190</td>
<td>3,274</td>
<td></td>
</tr>
<tr>
<td>Total inventory change</td>
<td>2,988</td>
<td>28,916</td>
<td></td>
</tr>
<tr>
<td>Net operating profit</td>
<td>95,070</td>
<td>173,642</td>
<td></td>
</tr>
<tr>
<td>Depreciation and Other Capital Adjustments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breeding livestock</td>
<td>6,764</td>
<td>19,695</td>
<td></td>
</tr>
<tr>
<td>Machinery and equipment</td>
<td>-37,021</td>
<td>-70,762</td>
<td></td>
</tr>
<tr>
<td>Buildings and improvements</td>
<td>-19,162</td>
<td>-23,412</td>
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</tr>
<tr>
<td>Other farm capital</td>
<td>91</td>
<td>-1,136</td>
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</tr>
<tr>
<td>Total depr. and other capital adj</td>
<td>-49,328</td>
<td>-75,615</td>
<td></td>
</tr>
<tr>
<td>Net farm income</td>
<td>45,742</td>
<td>98,027</td>
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<tr>
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<td>Avg. Of All Farms</td>
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<tr>
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<td></td>
<td>19</td>
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<tr>
<td>Net operating profit</td>
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<td>173,642</td>
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<tr>
<td>Breeding Livestock</td>
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<td>Avg. Of</td>
<td>High 25%</td>
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</tr>
<tr>
<td>--------------------------------------</td>
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<td></td>
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<tr>
<td></td>
<td>All Farms</td>
<td></td>
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<tr>
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### Profitability (assets valued at cost)

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<tr>
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<td>Avg. Of</td>
<td>High 25%</td>
</tr>
<tr>
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<td>All Farms</td>
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<tr>
<td>Value of operator lbr and mgmt.</td>
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<td>55,851</td>
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<td>527,519</td>
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### Profitability (assets valued at market)

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<td></td>
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<tr>
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<td>7.9 %</td>
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<td>Rate of return on equity</td>
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<tr>
<td>Operating profit margin</td>
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<td>33.2 %</td>
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<td>22.7 %</td>
<td>23.9 %</td>
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<td>96,939</td>
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<tr>
<td>Farm interest expense</td>
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<td>22,939</td>
</tr>
<tr>
<td>Value of operator lbr and mgmt.</td>
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<td>55,851</td>
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<td>1,615,646</td>
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<tr>
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<td>328,042</td>
<td>527,519</td>
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<td></td>
<td>Avg. Of</td>
<td>High 25%</td>
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<tr>
<td></td>
<td>All Farms</td>
<td></td>
</tr>
<tr>
<td>Number of farms</td>
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<td>6</td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td><strong>Liquidity (cash)</strong></td>
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<tr>
<td>Net cash farm income</td>
<td>92,082</td>
<td>144,727</td>
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<tr>
<td>Net nonfarm income</td>
<td>8,356</td>
<td>3,938</td>
</tr>
<tr>
<td>Family living and taxes</td>
<td>38,741</td>
<td>30,509</td>
</tr>
<tr>
<td>Real estate principal payments</td>
<td>5,602</td>
<td>7,118</td>
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<tr>
<td>Cash available for interm. debt</td>
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<td>111,038</td>
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<td>201,024</td>
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<tr>
<td>Years to turnover interm. debt</td>
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<td>1.8</td>
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<td>76 %</td>
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<td>4 %</td>
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<tr>
<td><strong>Liquidity (accrual)</strong></td>
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<tr>
<td>Net accrual operating income</td>
<td>95,070</td>
<td>173,642</td>
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<tr>
<td>Net nonfarm income</td>
<td>8,356</td>
<td>3,938</td>
</tr>
<tr>
<td>Family living and taxes</td>
<td>38,741</td>
<td>30,509</td>
</tr>
<tr>
<td>Real estate principal payments</td>
<td>5,602</td>
<td>7,118</td>
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<tr>
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<td>59,083</td>
<td>139,953</td>
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<tr>
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<td>201,024</td>
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<td>1.4</td>
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<td>73 %</td>
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<td>Interest as a % of income</td>
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<td>4 %</td>
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### Table 11  
**Balance Sheet at Cost Values**  
**Michigan Upper Peninsula Dairy Farms, 2003**  
(Farms Sorted By Rate of Return on Assets - Mkt)

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<th>Avg. Of</th>
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<tbody>
<tr>
<td></td>
<td>All Farms</td>
<td>High 25%</td>
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</tr>
<tr>
<td><strong>Number of farms</strong></td>
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</tr>
<tr>
<td><strong>Assets</strong></td>
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<tr>
<td><strong>Current Farm Assets</strong></td>
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<td>Cash and checking balance</td>
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<td>11,523</td>
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<td>Growing crops</td>
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<tr>
<td>Breeding livestock</td>
<td>279,269</td>
<td>293,210</td>
<td>417,125</td>
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<tr>
<td>Machinery and equipment</td>
<td>116,789</td>
<td>102,547</td>
<td>210,044</td>
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<td>10,475</td>
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<td>578,781</td>
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<td><strong>Total liabilities</strong></td>
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<td>382,597</td>
<td>578,781</td>
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<tr>
<td><strong>Net worth change</strong></td>
<td>20,150</td>
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<td>776,624</td>
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<tr>
<td><strong>Ratio Analysis</strong></td>
<td></td>
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<tr>
<td>Current farm liabilities / assets</td>
<td>71 %</td>
<td>77 %</td>
<td>68 %</td>
</tr>
<tr>
<td>Curr. &amp; interim farm liab. / assets</td>
<td>38 %</td>
<td>39 %</td>
<td>37 %</td>
</tr>
<tr>
<td>Long term farm liab. / assets</td>
<td>65 %</td>
<td>61 %</td>
<td>77 %</td>
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<tr>
<td><strong>Total debt to asset ratio</strong></td>
<td>45 %</td>
<td>44 %</td>
<td>46 %</td>
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</table>
Table 12  
**Balance Sheet at Market Values**  
**Michigan Upper Peninsula Dairy Farms, 2003**  
(Farms Sorted By Rate of Return on Assets - Mkt)

<table>
<thead>
<tr>
<th>Number of farms</th>
<th>Avg. Of All Farms</th>
<th>High 25% Mkt</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Beginning</td>
<td>Ending</td>
</tr>
<tr>
<td><strong>Assets</strong></td>
<td></td>
<td></td>
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<tr>
<td>Current Farm Assets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash and checking balance</td>
<td>7,693</td>
<td>11,255</td>
</tr>
<tr>
<td>Prepaid expenses &amp; supplies</td>
<td>8,040</td>
<td>8,608</td>
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<tr>
<td>Growing crops</td>
<td>2,912</td>
<td>2,912</td>
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<tr>
<td>Accounts receivable</td>
<td>22,280</td>
<td>24,514</td>
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<tr>
<td>Crops held for sale or feed</td>
<td>77,970</td>
<td>82,911</td>
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<tr>
<td>Crops under government loan</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Market livestock held for sale</td>
<td>20,882</td>
<td>16,126</td>
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<td>Other current assets</td>
<td>132</td>
<td>324</td>
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<tr>
<td><strong>Total current farm assets</strong></td>
<td>139,910</td>
<td>146,649</td>
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<tr>
<td>Intermediate Farm Assets</td>
<td></td>
<td></td>
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<tr>
<td>Breeding livestock</td>
<td>279,269</td>
<td>293,210</td>
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<tr>
<td>Machinery and equipment</td>
<td>246,082</td>
<td>247,781</td>
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<tr>
<td>Titled vehicles</td>
<td>0</td>
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<tr>
<td>Other intermediate assets</td>
<td>17,414</td>
<td>17,245</td>
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<tr>
<td><strong>Total intermediate farm assets</strong></td>
<td>542,766</td>
<td>558,236</td>
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<tr>
<td>Long Term Farm Assets</td>
<td></td>
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<tr>
<td>Farm land</td>
<td>480,097</td>
<td>496,650</td>
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<td>Buildings and improvements</td>
<td>230,255</td>
<td>244,000</td>
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<tr>
<td>Other long-term assets</td>
<td>24,239</td>
<td>24,989</td>
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<tr>
<td><strong>Total long-term farm assets</strong></td>
<td>734,591</td>
<td>765,639</td>
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<tr>
<td><strong>Total Farm Assets</strong></td>
<td>1,417,267</td>
<td>1,470,523</td>
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<tr>
<td><strong>Total Nonfarm Assets</strong></td>
<td>76,282</td>
<td>78,680</td>
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<tr>
<td><strong>Total Assets</strong></td>
<td>1,493,549</td>
<td>1,549,203</td>
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<tr>
<td><strong>Liabilities</strong></td>
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<td>Current Farm Liabilities</td>
<td></td>
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<td>Accrued interest</td>
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<td>Accounts payable</td>
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<td>Current notes</td>
<td>69,263</td>
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<td>Government crop loans</td>
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<td>Principal due on term debt</td>
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<td>99,173</td>
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<td>Total intermediate farm liabs</td>
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<td>168,205</td>
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<td><strong>Total farm liabilities</strong></td>
<td>374,727</td>
<td>382,597</td>
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<tr>
<td>Total nonfarm liabilities</td>
<td>0</td>
<td>0</td>
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<tr>
<td><strong>Total liabilities excluding deferreds</strong></td>
<td>374,727</td>
<td>382,597</td>
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<tr>
<td>Retained earnings</td>
<td>462,589</td>
<td>482,739</td>
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<td>Market valuation equity</td>
<td>656,233</td>
<td>683,868</td>
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<tr>
<td>Net worth (farm and nonfarm)</td>
<td>1,118,821</td>
<td>1,166,606</td>
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<tr>
<td>Net worth excluding deferreds</td>
<td>1,118,821</td>
<td>1,166,606</td>
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<td><strong>Net worth change</strong></td>
<td>47,785</td>
<td>166,456</td>
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<td><strong>Ratio Analysis</strong></td>
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<tr>
<td>Current farm liabilities / assets</td>
<td>71 %</td>
<td>77 %</td>
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<tr>
<td>Curr. &amp; interm farm liab. / assets</td>
<td>30 %</td>
<td>30 %</td>
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<tr>
<td>Long term farm liab. / assets</td>
<td>23 %</td>
<td>22 %</td>
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<tr>
<td>Total debt to asset ratio</td>
<td>25 %</td>
<td>25 %</td>
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<tr>
<td>Debt to assets excl deferreds</td>
<td>25 %</td>
<td>25 %</td>
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16
<table>
<thead>
<tr>
<th></th>
<th>Avg. Of</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>All Farms</td>
<td>High 25%</td>
<td></td>
</tr>
<tr>
<td>Number of farms</td>
<td>19</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Beginning cash (farm &amp; nonfarm)</td>
<td>7,693</td>
<td>15,270</td>
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<tr>
<td>Cash From Operating Activities</td>
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<tr>
<td>Gross cash farm income</td>
<td>411,907</td>
<td>612,274</td>
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<tr>
<td>Net nonfarm income</td>
<td>8,356</td>
<td>3,938</td>
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<td>Total cash farm expense</td>
<td>-319,825</td>
<td>-467,547</td>
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<td>Apparent family living expense</td>
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<tr>
<td>Income and social security tax</td>
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<td>-1,936</td>
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<tr>
<td>Cash from operations</td>
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<td>118,155</td>
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<tr>
<td>Cash From Investing Activities</td>
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</tr>
<tr>
<td>Sale of breeding livestock</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Sale of machinery &amp; equipment</td>
<td>382</td>
<td>-</td>
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<tr>
<td>Sale of titled vehicles</td>
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<td>-</td>
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<tr>
<td>Sale of farm land</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Sale of farm buildings</td>
<td>176</td>
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<td>Sale of other farm assets</td>
<td>285</td>
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<tr>
<td>Sale of nonfarm assets</td>
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<tr>
<td>Purchase of breeding livestock</td>
<td>-7,177</td>
<td>-17,820</td>
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<tr>
<td>Purchase of machinery &amp; equip.</td>
<td>-23,161</td>
<td>-37,067</td>
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<td>Purchase of titled vehicles</td>
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<tr>
<td>Purchase of farm land</td>
<td>-3,646</td>
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<tr>
<td>Purchase of farm buildings</td>
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<td>-29,136</td>
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<tr>
<td>Purchase of other farm assets</td>
<td>-1,274</td>
<td>-2,566</td>
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<tr>
<td>Purchase of nonfarm assets</td>
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<td>-899</td>
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<tr>
<td>Cash from investing activities</td>
<td>-70,607</td>
<td>-87,488</td>
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<tr>
<td>Cash From Financing Activities</td>
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<tr>
<td>Money borrowed</td>
<td>99,639</td>
<td>93,133</td>
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<tr>
<td>Cash gifts and inheritances</td>
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<tr>
<td>Principal payments</td>
<td>-91,960</td>
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<tr>
<td>Dividends paid</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Gifts given</td>
<td>-</td>
<td>-</td>
<td></td>
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<tr>
<td>Cash from financing activities</td>
<td>12,471</td>
<td>-30,129</td>
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<tr>
<td>Net change in cash balance</td>
<td>3,561</td>
<td>539</td>
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<tr>
<td>Ending cash (farm &amp; nonfarm)</td>
<td>11,255</td>
<td>15,808</td>
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</tr>
<tr>
<td></td>
<td>Avg. Of All Farms</td>
<td>High 25%</td>
<td></td>
</tr>
<tr>
<td>-------------------------</td>
<td>-------------------</td>
<td>----------</td>
<td></td>
</tr>
<tr>
<td><strong>Number of farms</strong></td>
<td>19</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td><strong>Liquidity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current ratio</td>
<td>1.30</td>
<td>1.41</td>
<td></td>
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<tr>
<td>Working capital</td>
<td>33,410</td>
<td>70,626</td>
<td></td>
</tr>
<tr>
<td><strong>Solvency (market)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm debt to asset ratio</td>
<td>26 %</td>
<td>25 %</td>
<td></td>
</tr>
<tr>
<td>Farm equity to asset ratio</td>
<td>74 %</td>
<td>75 %</td>
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<tr>
<td>Farm debt to equity ratio</td>
<td>35 %</td>
<td>34 %</td>
<td></td>
</tr>
<tr>
<td><strong>Profitability (cost)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate of return on farm assets</td>
<td>1.2 %</td>
<td>5.2 %</td>
<td></td>
</tr>
<tr>
<td>Rate of return on farm equity</td>
<td>-1.2 %</td>
<td>6.4 %</td>
<td></td>
</tr>
<tr>
<td>Operating profit margin</td>
<td>3.0 %</td>
<td>12.3 %</td>
<td></td>
</tr>
<tr>
<td>Net farm income</td>
<td>45,742</td>
<td>98,027</td>
<td></td>
</tr>
<tr>
<td><strong>Repayment Capacity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Term debt coverage ratio</td>
<td>166 %</td>
<td>187 %</td>
<td></td>
</tr>
<tr>
<td>Capital replacement margin</td>
<td>30,069</td>
<td>72,477</td>
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</tr>
<tr>
<td><strong>Efficiency</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asset turnover rate (cost)</td>
<td>40.6 %</td>
<td>42.1 %</td>
<td></td>
</tr>
<tr>
<td>Operating expense ratio</td>
<td>73.4 %</td>
<td>69.3 %</td>
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</tr>
<tr>
<td>Depreciation expense ratio</td>
<td>11.9 %</td>
<td>11.8 %</td>
<td></td>
</tr>
<tr>
<td>Interest expense ratio</td>
<td>3.7 %</td>
<td>3.6 %</td>
<td></td>
</tr>
<tr>
<td>Net farm income ratio</td>
<td>11.0 %</td>
<td>15.3 %</td>
<td></td>
</tr>
<tr>
<td>Table 15</td>
<td>Operator and Labor Information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>--------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Michigan Upper Peninsula Dairy Farms, 2003</strong></td>
<td><em>(Farms Sorted By Rate of Return on Assets - Mkt)</em></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Avg. Of All Farms</th>
<th>High 25%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of farms</td>
<td>19</td>
<td>6</td>
</tr>
</tbody>
</table>

**Operator Information**

<table>
<thead>
<tr>
<th></th>
<th>Avg. Of All Farms</th>
<th>High 25%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average number of operators</td>
<td>1.6</td>
<td>1.4</td>
</tr>
<tr>
<td>Average age of operators</td>
<td>50.5</td>
<td>45.2</td>
</tr>
<tr>
<td>Average number of years farming</td>
<td>24.8</td>
<td>20.0</td>
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**Results Per Operator**

<table>
<thead>
<tr>
<th></th>
<th>Avg. Of All Farms</th>
<th>High 25%</th>
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</thead>
<tbody>
<tr>
<td>Working capital</td>
<td>21,036</td>
<td>50,447</td>
</tr>
<tr>
<td>Total assets (market)</td>
<td>975,424</td>
<td>1,715,090</td>
</tr>
<tr>
<td>Total liabilities</td>
<td>240,894</td>
<td>413,415</td>
</tr>
<tr>
<td>Net worth (market)</td>
<td>734,530</td>
<td>1,301,676</td>
</tr>
<tr>
<td>Net worth excl deferred liabs</td>
<td>734,530</td>
<td>1,301,676</td>
</tr>
<tr>
<td>Gross farm income</td>
<td>260,992</td>
<td>457,171</td>
</tr>
<tr>
<td>Total farm expense</td>
<td>232,191</td>
<td>387,151</td>
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<tr>
<td>Net farm income</td>
<td>28,801</td>
<td>70,020</td>
</tr>
<tr>
<td>Net nonfarm income</td>
<td>5,261</td>
<td>2,813</td>
</tr>
<tr>
<td>Family living &amp; tax withdrawals</td>
<td>24,392</td>
<td>21,792</td>
</tr>
<tr>
<td>Total acres owned</td>
<td>404.3</td>
<td>778.4</td>
</tr>
<tr>
<td>Total crop acres</td>
<td>508.9</td>
<td>921.7</td>
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<tr>
<td>Crop acres owned</td>
<td>311.7</td>
<td>650.3</td>
</tr>
<tr>
<td>Crop acres cash rented</td>
<td>197.3</td>
<td>271.4</td>
</tr>
<tr>
<td>Crop acres share rented</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Total pasture acres</td>
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**Labor Analysis**

<table>
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<tr>
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<th>Avg. Of All Farms</th>
<th>High 25%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of farms</td>
<td>19</td>
<td>6</td>
</tr>
<tr>
<td>Total unpaid labor hours</td>
<td>4,583</td>
<td>4,200</td>
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<td>Total hired labor hours</td>
<td>4,526</td>
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<tr>
<td>Total labor hours per farm</td>
<td>9,109</td>
<td>11,370</td>
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<tr>
<td>Unpaid hours per operator</td>
<td>2,886</td>
<td>3,000</td>
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<tr>
<td>Value of farm production / hour</td>
<td>36.01</td>
<td>46.40</td>
</tr>
<tr>
<td>Net farm income / unpaid hour</td>
<td>9.98</td>
<td>23.34</td>
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**Partnerships**

<table>
<thead>
<tr>
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<th>Avg. Of All Farms</th>
<th>High 25%</th>
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</thead>
<tbody>
<tr>
<td>Number of farms</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Number of operators</td>
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</tr>
<tr>
<td>Owner withdrawals per farm</td>
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<td>-</td>
</tr>
<tr>
<td>Withdrawals per operator</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Table 16</strong></td>
<td><strong>Financial Summary</strong></td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>-----------------------</td>
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</tr>
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<td><strong>Michigan Upper Peninsula Dairy Farms, 2003</strong></td>
<td><em>(Farms Sorted By Rate of Return on Assets - Mkt)</em></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Avg. Of</th>
<th>High 25%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of farms</strong></td>
<td>19</td>
<td>6</td>
</tr>
</tbody>
</table>

**Income Statement**

- **Gross cash farm income**: 411,907 / 612,274
- **Total cash farm expense**: 319,825 / 467,547
- **Net cash farm income**: 92,082 / 144,727
- **Inventory change**: 2,988 / 28,916
- **Depreciation and capital adjust**: -49,328 / -75,615
- **Net farm income**: 45,742 / 98,027

**Profitability (cost)**

- **Labor and management earnings**: 19,934 / 58,563
- **Rate of return on assets**: 1.2 % / 5.2 %
- **Rate of return on equity**: -1.2 % / 6.4 %
- **Operating profit margin**: 3.0 % / 12.3 %
- **Asset turnover rate**: 40.6 % / 42.1 %

**Profitability (market)**

- **Labor and management earnings**: 13,725 / 111,079
- **Rate of return on assets**: 2.9 % / 7.9 %
- **Rate of return on equity**: 2.5 % / 9.4 %
- **Operating profit margin**: 12.8 % / 33.2 %
- **Asset turnover rate**: 22.7 % / 23.9 %

**Liquidity**

- **Ending current ratio**: 1.30 / 1.41
- **Ending working capital**: 33,410 / 70,626
- **Term debt coverage ratio**: 165.9 % / 187.2 %
- **Expense as a percent of income**: 77.1 % / 72.9 %
- **Interest as a percent of income**: 3.7 % / 3.6 %

**Solvency (cost)**

- **Number of farms**: 17 / 5
- **Ending farm assets**: 819,473 / 1,271,796
- **Ending farm liabilities**: 382,597 / 578,781
- **Ending total assets**: 865,335 / 1,355,405
- **Ending total liabilities**: 382,597 / 578,781
- **Ending net worth**: 482,739 / 776,624
- **Net worth change**: 20,150 / 70,557
- **Ending farm debt to asset ratio**: 47 % / 46 %
- **Beg total debt to asset ratio**: 45 % / 46 %
- **End total debt to asset ratio**: 44 % / 43 %

**Solvency (market)**

- **Number of farms**: 17 / 5
- **Ending farm assets**: 1,470,523 / 2,284,701
- **Ending farm liabilities**: 382,597 / 578,781
- **Ending total assets**: 1,549,203 / 2,401,127
- **Ending total liabilities**: 382,597 / 578,781
- **Ending net worth**: 1,166,606 / 1,822,346
- **Net worth change**: 47,785 / 166,456
- **Ending farm debt to asset ratio**: 26 % / 25 %
- **Beg total debt to asset ratio**: 25 % / 27 %
- **End total debt to asset ratio**: 25 % / 24 %

**Nonfarm Information**

- **Net nonfarm income**: 8,356 / 3,938

**Crop Acres**

- **Total acres owned**: 642 / 1,090
- **Total crop acres**: 808 / 1,290
- **Total crop acres owned**: 495 / 910
- **Total crop acres cash rented**: 313 / 380
- **Total crop acres share rented**: - / -