2006 Farmer Investment Survey

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Introduction

In February 2006 we sent a survey to 788 Wisconsin farmers who had completed the 2004 Agricultural Resource Management Survey (ARMS). ARMS is administered by the National Agricultural Statistics Service (NASS) and gathers detailed production and financial data on a statistically representative cross-section of Wisconsin’s farms. A cover letter to our survey from Rod Nilsestuen, Secretary of the Wisconsin Department of Agriculture, Trade and Consumer Protection read:

This short survey attempts to understand how, why and where Wisconsin farmers, as a group, are investing off the farm… (and) what sort of educational programs would help producers to set goals and invest more effectively.

431 farmers (55%) returned the questionnaire. 371 of them were deemed usable, a 47% response rate.

Significant Variables

Thanks to the cooperation of NASS, we were able to link our survey directly to these farmers’ responses to the ARMS dataset. This allowed us to examine responses to our survey questions with the following variables, selected from the ARMS data:

- Geography
- Education level
- Age
- Primary commodity
- Farm size (acres)
- Gross farm income
- Net worth
- Government payments

Using cross tabs and chi-squared analysis, we identified which of these variables correlate significantly with farmers’ current investment activity and their attitudes and educational needs related to off-farm agriculturally related investment opportunities. All variables discussed below were found to be statistically significant.

Recent Off-farm Investment Activity

Several survey questions asked about farmers’ recent off-farm investment activity.

60% of respondent considered making an off-farm investment in the past five years.

51% reported that they actually made an off-farm investment in the past five years.

Farmers were more likely to have actually made an off-farm investment if:

- they had more formal education (Chart 1)
- they were cash grain or vegetable producers (Chart 2)
- they had a net worth $2.5 million or greater (Chart 3)
- they had received $50,000 or more in government payments (Chart 4)

![Chart 1: Investment Activity and Education level](chart1.png)

![Chart 2: Investment Activity and Commodity](chart2.png)
Investment in Stocks & Bonds

We asked participants if they currently have $10,000 or more in a variety of off-farm investments and found that:

34% reported having $10,000 or more invested in non-agricultural stocks or mutual funds.

29% reported having $10,000 or more invested in bonds, CDs or money markets.

The type of off-farm investments made by farmers was significantly influenced by:

- education levels – those with more formal education were more likely to have invested in stocks, mutual funds, bonds, CDs and money markets (Chart 5.)
- type of farm – cash grain and vegetable producers were more likely than dairy, livestock and other producers to have greater investments particularly in stocks (Chart 6.)
- net worth - there is a weak positive relationship between net worth and investment in bonds (Chart 7.)

Other off-farm investment activity:

Some farmers in the sample invested $10,000 or more in other entities:

<table>
<thead>
<tr>
<th>% of Sample</th>
<th>Type Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>6%</td>
<td>Farm supply cooperative</td>
</tr>
<tr>
<td>5%</td>
<td>Ethanol plant</td>
</tr>
<tr>
<td>3%</td>
<td>Marketing cooperative</td>
</tr>
<tr>
<td>3%</td>
<td>Ag-specific stocks (John Deere etc)</td>
</tr>
<tr>
<td>1%</td>
<td>Service cooperative</td>
</tr>
<tr>
<td>9%</td>
<td>Other</td>
</tr>
</tbody>
</table>

Farmers satisfaction levels

Only 25% and 30% of farms in the sample were “very satisfied” with their returns on investment (ROI) and their risk level, respectively (Tables 9 and 10.)

Significant variables: None of our variables were statistically correlated with farmers’ satisfaction with ROI. One variable, age, was significantly associated with satisfaction with risk level: only 4% of farmers in their 30s were “very satisfied” with their risk level (Chart 11.)

Important Considerations

Farmers were asked to rate the importance of various factors when they consider an off-farm investment opportunity: return on investment; potential for long-term retirement income; the level of risk; the leadership and management team; the quality of the business plan; their
understanding of the industry; the potential to diversify; the potential for short-term supplemental income, and the impact on the local economy.

Chart 9: Satisfaction with ROI

Chart 10: Satisfaction with Risk Level

Chart 11: Farm Operator Age and Satisfaction with Risk Level

Chart 12 presents their average collective assessment of these factors based on a standard Likert scale:

- 5 = extremely important
- 4 = important
- 3 = somewhat important
- 2 = mildly important
- 1 = not important

Wisconsin’s farmers appear to be strongly focused on the expected ROI of off-farm investments; they are long-term investors; and they are also concerned about the risks associated with their investments. This assessment is reinforced by their choice of the most important factors they consider in making off-farm investments (Chart 13.)

Other significant investment-decision findings:

- Farmers with greater net worth were more likely to rate diversification implications as important.
- Interestingly, farmers in their 20s and their 60s rated “potential for long retirement income” as more important than those in between (Chart 14.)

Factors Limiting Off-farm Investment

Farmers in this sample cited a lack of capital as the factor that most limits their ability to participate in off-farm, agriculturally related investments (Chart 15.)

Again, farmers were asked to circle the most limiting factor (Chart 16.)
Relationships with respect to investment constraints:

- "lack of capital", as a limiting factor, decreases steadily with age, with 86% of farmers in their 20s rating it as important or extremely important, down to just 53% for farmers over 70.

- being unaware of opportunities is an important or extremely important limiting factor for 62% of cash crop producers, for half of beef producers, for 46% of pork producers, 42% of dairy producers, and 38% of vegetable producers.

- It is interesting to note that farmers in their 20s are least likely to rank "lack of experience" as an important or extremely important limiting factor.

Factors associated with agriculturally-related investment preferences:

- Farmers’ interest in the eleven different investment opportunities varied considerably by primary commodity produced.
- The highest average rating (3.84) across all categories of farmers and opportunities was grain producers’ interest in ethanol.
- Interest in the three dairy related opportunities registered the greatest interest among farmers that grossed over $1 million in farm income. This category also showed the most interest in biogas.
- Farmers from southeastern Wisconsin showed the most interest in biodiesel, as well as bio-based industrial and medical products, and branded foods.
- Vegetable producers showed the greatest interest in wind energy.
- Additional comparisons between investment opportunities and selected variables are presented in Table 1.

Farmers’ Capacity to Invest

Chart 18 summarizes the amount of additional off-farm agricultural investments that farmers in our sample said they would be willing make. Fewer than one in five are not interested in any additional off-farm agricultural investments and more than one in five would invest an additional $25,000 or more.

Factors associated with willingness to invest more in off-farm agriculturally related ventures:

- Geography: 62% of farmers in southeastern Wisconsin would consider investments of $10,000 or more-- compared to 39% of farmers in the rest of the state.
- Education: 58% of farmers with a college degree would consider investing $10,000 or more-- compared to 35% for those with only a HS degree or less.
• Farm size: 70% of farms over 1000 acres would consider investing $10,000 or more-- compared to 31% of farms under 500 acres.
• Gross income: 73% of farms grossing over $1 million would consider investing $10,000 or more-- compared to 33% of farms grossing under $500,000.
• Net worth: 74% of farms with a net worth over $2.5 million would consider investing $10,000 or more-- compared to 31% of farms with a net worth under $1 million.
• Government payments: 72% of farms receiving $50,000 or more in government payments would consider investing $10,000 or more-- compared to 30% receiving $10,000 or less.

There are, in short, sharp divisions between those interested in additional investments and those who aren’t.

<table>
<thead>
<tr>
<th>Opportunity</th>
<th>Particular interest</th>
<th>All other farms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialty cheese plant</td>
<td>Dairy producers: 2.34 average rating 24% rated 4+ interest</td>
<td>All other farms: 1.98 average rating 4% rated 4+ interest</td>
</tr>
<tr>
<td>Dairy retail business</td>
<td>Dairy producers: 2.37 average rating 24% rated 4+ interest</td>
<td>All other farms: 1.29 average rating 4% rated 4+ interest</td>
</tr>
<tr>
<td>Dairy farm “mutual fund”</td>
<td>Dairy producers: 2.31 average rating 20% rated 4+ interest</td>
<td>All other farms: 1.72 average rating 8% rated 4+ interest</td>
</tr>
<tr>
<td>Ethanol plant</td>
<td>Cash grain producers: 3.84 average rating 64% rated 4+ interest &gt;1000 acres: 3.68 average rating 60% rated 4+ interest &gt;$1.5M net worth: 3.44 average rating 51% rated 4+ interest &gt;$50K gov payments: 3.85 average rating 70% rated 4+ interest</td>
<td>All other farms: 3.00 average rating 40% rated 4+ interest &lt;1000 acres: 2.96 average rating 41% rated 4+ interest &lt;$1.5M net worth: 2.95 average rating 42% rated 4+ interest &lt;$50K gov payments: 3.00 average rating 38% rated 4+ interest</td>
</tr>
<tr>
<td>Bio-gas or anaerobic digesters</td>
<td>&lt; $500K gross inc: 3.06 average rating 37% rated 4+ interest</td>
<td>&lt;$500K gross inc: 2.22 average rating 20% rated 4+ interest</td>
</tr>
<tr>
<td></td>
<td>&gt; $25K gov payments: 2.97 average rating 40% rated 4+ interest</td>
<td>&lt;$25K gov payments: 2.30 average rating 20% rated 4+ interest</td>
</tr>
</tbody>
</table>

The estimated range of $100-200 million investment capacity may sound like a lot, but even leveraged with borrowed capital, that would only buy about five average-sized ethanol plants. And as our research shows, state farmers are interested in more than just ethanol.

Or, as Rod Nilsestuen, Secretary of the Wisconsin Department of Agriculture, Trade and Consumer Protection, stated in our survey cover letter: “The choices that we make now about where we invest our limited resources will affect us all down the road.”

Geography and Investment Capacity

Geography was one of the variables that correlated with farmers’ reported interest or capacity to invest in off-farm, agriculturally related opportunities. As Table 2 shows,
there is considerable difference between one area of the state to the next. Consider, for instance, the west central NASS District, where 29% of farms would consider investing $50,000 or more, compared to three other districts where only 4% responded as such.

<table>
<thead>
<tr>
<th>NASS District</th>
<th>% over $10K</th>
<th>% over $25K</th>
<th>% over $50K</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northwest</td>
<td>27%</td>
<td>12%</td>
<td>4%</td>
</tr>
<tr>
<td>North Central</td>
<td>30%</td>
<td>11%</td>
<td>6%</td>
</tr>
<tr>
<td>Northeast</td>
<td>63%</td>
<td>32%</td>
<td>12%</td>
</tr>
<tr>
<td>West Central</td>
<td>45%</td>
<td>32%</td>
<td>29%</td>
</tr>
<tr>
<td>Central</td>
<td>37%</td>
<td>11%</td>
<td>6%</td>
</tr>
<tr>
<td>East Central</td>
<td>38%</td>
<td>22%</td>
<td>14%</td>
</tr>
<tr>
<td>Southwest</td>
<td>36%</td>
<td>9%</td>
<td>4%</td>
</tr>
<tr>
<td>South Central</td>
<td>42%</td>
<td>21%</td>
<td>20%</td>
</tr>
<tr>
<td>Southeast</td>
<td>63%</td>
<td>42%</td>
<td>4%</td>
</tr>
</tbody>
</table>

Table 2: % of farms in each NASS district that would consider making investments of $10,000 or more in an off-farm ag-related opportunity.

Husbands & Wives

Unfortunately, the design of the survey questionnaire resulted in a low response rate to one of the more intriguing variables: the identity of the person completing the survey. Only 43% (159 of 371) of respondents revealed whether they were the household’s Husband, Wife, Business partner, Lender, Paid Advisor, or Other. Of those who did answer the question, 58% were Husbands, 14% were Wives, 18% were Business partners, and 9% answered Other.

Far more of the respondents answered the question as to who in their operation is typically involved in making investment decisions:

- 88% Husbands
- 66% Wives
- 19% Business partners
- 9% Lenders
- 4% Paid advisors
- 8% Others

Regarding the issue of investment capacity, it is interesting to note that 51% of husbands (46 of 91) versus 43% of wives (9 of 21) would invest $10,000 or more in an off-farm, agriculturally related opportunity.

Farmers’ Educational Needs

We also asked Wisconsin farmers’ to rate their own ability to evaluate investment opportunities in terms of understanding financial data, evaluating risk, assessing managerial quality, reading a prospectus, assessing the competitiveness of a sector, understanding industry trends, gauging the impact on their portfolio of a given investment, and overall market demand.

Chart 19 shows that Wisconsin farmers rate their ability to evaluate investments right in the middle range of 3.0 on a scale of 5. This would indicate significant room for improvement via educational programs.

However, when asked to express their interest in educational programs on each of those same eight topics, farmers expressed the same mid-range level of enthusiasm. Their preference was for 1-day face-to-face workshops on these topics, as opposed to multiple days and on-line programs. Furthermore, the average distance that farmers indicated they would travel to attend such a workshop was 33 miles.

Concluding Remarks

We have all witnessed the increased interest among farmers and other industry stakeholders in finding ways to add value to our state’s agricultural commodities, particularly with respect to the emerging bio-economy. One of the key questions associated with this development is the extent to which farmers will participate in these opportunities as investors.

To our knowledge, the survey that we sent out in February 2006 was the first of its kind in Wisconsin. We are very grateful to the staff at NASS who allowed us to tie our results to the tremendous data resource of their 2004 ARMS survey.

There is still a good deal of analysis that could be done with the data that we have already collected. We welcome any critiques or suggestions that would help us to improve upon this draft report.