

Online Investment Education: Listening to Learners to Develop an Effective Financial Literacy Program for Farm Households

Barbara O'Neill, Nancy M. Porter, Debra Pankow, Jane Schuchardt, and Jason Johnson

A needs assessment was conducted for the adaptation of an existing online Cooperative Extension investment course for use by farm households. The theoretical model was Social Marketing Theory. Data about financial attitudes, practices, and learning preferences of farm households were collected through a telephone survey of 300 farm households and two focus groups. Quantitative and qualitative data confirmed that farmers prefer investing in land and farm-related assets instead of securities. Further, an increasing number of farm family members engaged in paid employment, which provided access to employee benefits. Many farmers did not plan to retire in later life but indicated a desire to scale back their work hours and/or reduce the size of their farm business. Women in the sample were more engaged with the Internet than men and less likely to dislike using computers.

Key Words: farm households, farmers, financial literacy, investing, retirement planning

In an article about strategies to motivate people to improve their financial practices, the National Endowment for Financial Education® (NEFE®) recommended “remember to ask what a client wants rather than telling him or her what you have to sell” (NEFE, 2004, p. 42) and “study the demographics and requirements of target audiences in order to incorporate relevant examples, language, and anecdotes in courses and materials” (NEFE, 2004, p. 43). This article provides a case study example of how these recommendations were carried out in the development of a financial education program. Specifically, the article describes findings and implications from a study of the personal finance and investing learning needs of a specific target audience: farm households. The term “farm households” is defined as any operation with \$1,000 or more of annual sales from agricultural products including crops, livestock, and timber (Economic Research Service, 2005).

This study, the result of a market analysis conducted by a public relations firm for a grant-funded financial education project, was undertaken to inform the adaptation of the Cooperative Extension¹ basic investing course, *Investing for Your Future*, for the intended target audience of farm households. It underscores the importance of understanding the mindset and culture of a target audience as the basis for providing relevant and appropriate content. The “Online Investment Education (OIE) for Farm Households” project was created to reach farm families nationwide with investment information that is relevant to their needs. The project was funded with a 2-year grant to the eXtension² Foundation from the Financial Industry Regulatory Authority (FINRA) Investor Education Foundation. The objective of the OIE project was to expand the existing eXtension *Investing for Your Future* (IFYF) online course so that it is interactive and designed with the needs and lifestyles of farm households in mind. The project was

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guided by a team of 16 members from 10 states, the National Institute of Food and Agriculture of the U.S. Department of Agriculture, and eXtension.

The OIE project enhances and expands existing IFYF content to make it interactive and attractive to farm households. An introduction and eight new farmer-centric lessons were developed with discussion of topics that farmers specifically asked for, such as a comparison of stock versus farmland as an investment. Also included are features such as chats and exercises to engage users and encourage them to take action related to investing.

Farm households are an under-served audience because large financial services firms and financial education providers are often not located nearby, making it difficult to access personalized investment information. In addition, they have unique investment education needs. For many farmers, their wealth is tied up in their land instead of in tax-deferred retirement savings accounts and other investments. If their land is subsequently sold to a developer or another farmer, or their development rights are sold to a farmland preservation program, farmers need to make wise investment decisions so that the proceeds of their sale last throughout their lifetime. Further, in the case where substantial assets are needed for retirement or long-term care, land can be a secured asset for borrowing, assuming cash flow from the farm operation is adequate to service the debt. Thus, knowledge of available investment products and their characteristics, as well as investment risks in general, the benefits of tax-deferred investing, and types and indicators of investment frauds are critical to farmers' financial security in later life.

Review of Literature

Farm Family Characteristics

The U.S. Census of Agriculture is conducted every 5 years, in years ending with a "2" and "7," to count the nation's farms and ranches and describe the people who operate them. The Census of Agriculture is conducted by the USDA National Agricultural Statistics Service (NASS) and provides current information about farm households including their numbers, demographics, and data about the economics of farming. The most current information about farm households is from the 2007 Census of Agriculture, which was released in February 2009.

Mishra, Durst, & El-Osta report that farm operators are older than the U.S. labor force in general and are staying in farming longer than previous generations (2005).

According to the 2007 Census of Agriculture, the average age of farm operators increased from 55.3 in 2002 to 57.1 in 2007. The number of operators 75 years and older grew by 20% from 2002, while the number of operators under 25 years of age decreased 30% (USDA, 2009a). Improved health and longevity, combined with technological advances in farming equipment, enable farmers to continue to perform the physical tasks necessary to operate a farm much longer than was true for previous generations. Mishra, Durst, & El-Osta (2005) stated that farming is also becoming popular as a part-time retirement activity.

Farmers tended to be asset-rich (due to land values), but their earnings varied considerably. Census of Agriculture figures for 2007 showed continuation of a trend toward more small and very large farms and fewer mid-sized operations. Between 2002 and 2007, the number of farms with annual sales of less than \$2,500 increased by 74,000 and the number with sales of more than \$500,000 grew by 46,000. More than 36% of farms were classified as residential/lifestyle farms with sales of less than \$250,000 and operators with a primary occupation other than farming. Another 21% were retirement farms, which had sales of less than \$250,000 and operators who reported they were retired (USDA, 2009b).

Many farm households received substantial off-farm income. Most U.S. farms were small with 60% reporting less than \$10,000 in sales of agricultural products. Of the 2.2 million farms nationwide, only 1 million showed positive net cash income from the farm operation. The remaining 1.2 million farms depended on non-farm income to cover farm expenses. Almost 900,000 principal farm operators reported working off-farm more than 200 days a year. Additionally, the share of farmers working off-farm rose from 55% in 2002 to 65% in 2007 (USDA, 2009a).

Farmers are a segment of the U.S. population of 10.6 million self-employed workers (U.S. Census Bureau, 2007) and therefore are responsible for planning and funding their own retirement. Although farm household income has steadily risen in comparison to that of all U.S. households, some farmers face the risk of having insufficient savings, investments, and other assets to fund a comfortable retirement (Mishra, El-Osta, Morehart, Johnson, & Hopkins, 2002). Past and present economic crises experienced by many farm operations contribute to the possibility of vulnerability in later life (Breazeale & Behal, 2001; Marotz-Baden, 1988).

Using data from the 2001 Survey of Consumer Finances, Gutter and Saleem (2005) studied the financial vulnerability of small business owners and concluded that business owners face unique financial vulnerability because of their reliance on the business as both a source of income and wealth. In addition, among business owners, farmers were the most vulnerable because their proportions of total income and total portfolio attributable to the business were higher than other business types. Kilman and Thurow (2008) described the volatility that farmers have experienced in recent years with cycles of sharply rising and then suddenly falling prices.

Incomes of farm households vary widely. For example, in 2006, 6% of farm households had negative incomes, and 7% had incomes of \$200,000 or more. Despite this variability, for every year since 1996, the average income of farm households has exceeded average U.S. household income. Average farm operator household income before taxes was \$86,864 in 2008, 27% higher than in 2003 (Wise & Harvie, 2009). Generally, as the income level of farm operator households increases, both average farm and off-farm income increase, as does the percentage of household income derived from farming (Economic Research Service, 2008).

Farm households had more wealth than the average U.S. household. This fact was not surprising because valuable capital assets, such as farmland and equipment, are generally necessary to operate a successful farm business. In general, all U.S. households with self-employed heads had greater wealth than the average U.S. household. Moreover, farm households had greater wealth than all U.S. households with a self-employed head (Economic Research Service, 2007). In 2007, the median wealth of farm operator households was more than four times the median wealth of U.S. families (Economic Research Service, 2009).

Farm households allocated their wealth among competing investments that included both farm business assets (e.g., land, machinery, and farm equipment) and off-farm financial assets such as stocks, bonds, mutual funds, and certificates of deposit (Mishra, El-Osta, Morehart, Johnson, & Hopkins, 2002). The portfolio of assets held by farm households was heavily weighted toward farm business assets, while the largest shares among asset portfolios of all U.S. households were primary residences, stocks, and mutual funds (Bucks, Kennickel, Mach, & Moore, 2009; Mishra, Durst, & El-Osta, 2005).

Farm household's financial portfolios included more personal savings than those of the typical U.S. household and, in general, farm households were less dependent on Social Security income during retirement (Mishra et al., 2005). Like other self-employed individuals, farmers pay a 15.3% self-employment tax that is equivalent to the Social Security and Medicare (FICA) tax paid by employees and matched by their employers. Only about a third of farm operators collecting Social Security received more than half their income from their benefit compared to over 60% of all current Social Security recipients (Mishra, Durst, & El-Osta, 2005).

Like non-farm households, farmers had diverse financial portfolios that included assets that were not part of the farm business. One quarter of non-farm assets were held in retirement savings accounts. Cash, checking, money market accounts, bonds, and certificates of deposit constitute less than one fourth of non-farm assets, as do stocks and mutual funds. The remainder of farmers' non-farm assets was held in real estate and businesses aside from the farm, off-farm real estate, and other assets (Mishra, Durst, & El-Osta, 2005). Only 40% of farm households participated in some type of tax-deferred retirement savings account (e.g., IRA and Keogh accounts), compared with 60% of all U.S. households. Participation rates increased with both income and net worth and were more likely among farm households headed by persons under age 65 (Mishra et al, 2005).

Financial Attitudes and Practices of Farm Households

While only tax-deferred investments were found to consistently provide the level of return and income necessary for financial security in later life, the majority of farm and ranch households did not take advantage of this opportunity (Hamaker & Patrick, 1996). Only 10% of income tax returns with farm income had deductions for individual retirement accounts (IRAs). Even fewer (8%) had deductions for Keogh plans. Many farm households did little formal planning or investing specifically for retirement, typically investing surplus funds into the farm with hopes that it will provide the necessary retirement income. Thus, it is not surprising that farm households with incomes of \$100,000 or more had only half as much in retirement savings as self-employed non-farm households with incomes of \$100,000 or more (Mishra, Durst, & El-Osta, 2005).

In focus group discussions with farmers, O'Neill, Komar, Brumfield, and Mickel (2009) found one explanation for

farmers' lack of participation in retirement savings plans for the self employed. Several participants noted that they avoided these plans, even relatively inexpensive to administer simplified employee pension (SEP) plans, because of the requirement to fund employees' accounts if they set aside savings for themselves. According to Internal Revenue Service (IRS) regulations for both SEP and Keogh plans, if business owners have employees, in years when plan contributions are made for themselves, they must be made for all eligible employees. Unlike other plans, however, there is no requirement for employers to make SEP contributions every year. If a farmer is short of cash one year, contributions can be skipped. The same is true for profit-sharing Keogh plans which allow employers to make larger contributions in good years and skip contributions in lean years (IRS, 2009; Keogh Plan, 2009).

Mishra and Moorehart (2001) studied off-farm investments of farm households to determine factors that influence the selection of financial assets such as stocks, bonds, mutual funds, and IRAs. They found that a farm operator's level of education and age had an expected positive influence and were significant in explaining off-farm investment decisions. Household net worth and farm size also had expected positive effects. In the case of farm size, the researchers found that large farms were more likely to be financially diversified than small farms. Conversely, increased farm diversification and higher debt reduced the likelihood of off-farm investment by farm households (Mishra & Moorehart, 2001).

Use of Technology by Farm Households

Computer use by farm households increased with farm earnings. According to a 2007 USDA report (National Agricultural Statistics Service, 2007), 80% of U.S. farms with sales and government payments of \$250,000 or more had access to a computer. Additionally, 78% owned or leased a computer, 66% used a computer for their farm business, and 75% had Internet access. For farms with sales and government payments between \$100,000 and \$249,000, the figures are: 70% had access to a computer, 66% owned or leased a computer, 51% used a computer for their farm business, and 61% had Internet access. For farms with sales and government payments between \$10,000 and \$99,999, 62% reported having computer access, 57% owned or leased a computer, 36% used a computer for their farm business, and 53% had Internet access.

The 2007 Census of Agriculture found that the percentage of farm operations with Internet access increased from

50% in 2002 to 57% in 2007. For the first time in 2007, the Census of Agriculture looked at high-speed Internet access, an important measure of farmers' ability to use the Internet effectively. Of the U.S. farms with Internet access, 58% reported having a high-speed connection (USDA, 2009a).

One of the most significant changes in the 2007 Census of Agriculture was the increase in female farm operators, both in absolute number and as a percentage of all principal operators. The Census showed 306,209 farms were operated principally by women in 2007, an increase of almost 30% from 237,819 in 2002 (USDA, 2009a). The 2002 Census of Agriculture found that women principal operators were more likely to use computers for business than male principal operators. In addition, 52% of women-operated farms had Internet access, compared to 49% of male-operated farms (National Agricultural Statistics Service, 2005).

Theoretical Model

The theoretical model for this study is Social Marketing Theory (SMT), which can be defined as the design and implementation of programs that increase the acceptance of an idea or practice by a specific target audience (Andreason, 1995). Previous successful examples of the application of SMT in the U.S. include visible and effective public campaigns to promote the wearing of seat belts and to reduce the number of incidents where people drive over the speed limit or drive while intoxicated.

An underlying premise of SMT is that people are most likely to embrace new ideas or adopt new behaviors when they feel that they have received something of value from a social marketer. Therefore, to conduct an effective educational program or behavior change campaign, social marketers (e.g., program organizers) need to address consumer needs and wants. Another key characteristic of social marketing campaigns is the use of effective commercial product marketing techniques to advance social causes (Meischke, n.d.).

While clear objectives, careful fact-finding, and descriptions of existing problems that warrant attention are important for any public outreach effort, application of SMT principles adds another important dimension. The most significant contribution of SMT is a strong focus on identifying and meeting consumer needs (Meischke, n.d.). In other words, campaign organizers need to "get inside the head" of their target audience to identify how they think and behave.

The OIE project deliberately followed basic principles of SMT. Formative research, soliciting both quantitative and qualitative data, was used in content design, followed by pre-testing of materials with a subgroup (*Annie's Project* program participants) of the target audience (U.S. farm households). *Annie's Project* is a national Cooperative Extension program designed to empower farm women to be better business partners through networks and by managing and organizing critical information related to farm and personal financial management (see <http://www.extension.iastate.edu/annie>).

SMT principles were especially evident throughout the OIE project marketing analysis to secure and maintain the engagement of learners so that they would be receptive to course content. SMT has become a popular framework for the design, implementation, and evaluation of health behavior interventions such as smoking cessation, diet, and exercise programs (Meischke, n.d.) and is increasingly being applied to financial education efforts such as the *America Saves* and *America Saves Week* programs (see <http://www.americasaves.org> and www.americasavesweek.org).

Hypotheses

The premise for the OIE project is that farm households' needs for investment education are unmet in terms of ready access and farm-specific topics. Based on findings in the studies cited above and anecdotal information known about farm households, following are the hypotheses for this study:

- H1: Many farm households do not have investment plans in place.
- H2: Many farm households are uncomfortable investing in unfamiliar markets (e.g., common stock).
- H3: Farm households have unique and often unmet investment education needs.
- H4: Diversification is a difficult investment principle for farm households to implement.
- H5: Women are more open to online investment education than men.
- H6: Cooperative Extension agents rank high as trusted promoters of the OIE program.
- H7: Older farm households are less amenable to online investment education than younger ones.
- H8: An appeal of online education is that it is self-paced and allows for individual scheduling.

- H9: A social component with an opportunity for interaction is appealing to some learners.

Methodology

The first phase of the OIE project was to conduct a marketing/audience analysis of farm households to: (a) listen to targeted learners to develop an effective investment education program to meet their needs, (b) develop a profile of the investing and retirement planning behavior of farm operators, and (c) better understand patterns and practices in farmers' preparation for retirement. The OIE marketing analysis was based on telephone interviews with farm household heads and two telephone focus groups that were assembled to explore their investment concerns, learning preferences, and barriers to changing financial management behaviors. Interviewing was organized so that all regions of the country were represented proportionately with quotas set for representative sampling by geographic region and age (Porter, Schuchardt, Pankow, & O'Neill, 2008).

A detailed survey was designed by Fleishman Hillard International Communications and conducted with a sample of 300 farm families from 43 states and 255 counties during August 2008. Respondents were selected from a list of potential cooperators who met the sample specifications listed below. The list was provided by FarmMarketID, an aggregator of farm-level U.S. agricultural data which are updated annually. Thirty percent of the random sample ($N = 1,000$) provided by FarmMarketID agreed to participate in the survey, which took an average of 20 minutes to complete.

Cooperative Extension was identified as a sponsor of the research which helped facilitate the cooperation rate. The survey was designed to obtain information relating to five basic areas pertaining to the respondents: (a) background and demographics; (b) knowledge and current use of basic investing principles; (c) personal investment planning; (d) need for investment education; and (e) sources of investment information, preferred education options, and promotional strategies to reach this target audience on the topic of online investment education.

Following the national survey, two telephone focus groups were conducted. These in-depth 90-minute discussions were completed in mid August 2008 and included 14 participants recruited from the same list as the survey respondents. Participants in the focus groups were selected to provide diverse geographic perspectives representative of the target audience. The interaction and focus group discussion provided additional insights and clarification to issues addressed in the survey.

Sample

The sample was selected to include farms with Internet access that could be large enough to solely support a family. It consisted of respondents ($N = 300$) aged 25 to 65 years with farm and ranch operations of intermediate size (\$250,000 to \$2,000,000 sales) who self-identified themselves as “involved in making decisions about your household’s personal finances.” Within the population of intermediate-size farm families, approximately one third of the primary operators are under 45 years of age (National Agricultural Statistics Service, 2002). A quota was set for the sample so that at least a third of survey respondents were in the younger group ($n = 100$) to mirror the national agricultural population.

As shown in Table 1, the majority of the respondents were married (93%) women (61%) with 84% having half or more of their household income from the farm. Over one quarter (26%) of respondents had at least some vocational/technical or college education; 43% were college graduates. Quotas were also set to obtain a representative sample by geographic region of the country. Respondents were categorized as farming in four regions (North Central, 48%; Northeast, 5%; South, 28%; and West, 19%). Internet connectivity was another essential criterion in respondent selection for the audience analysis since the study was being conducted to aid in the development of

an online investment course. Thus, only farm households with Internet access were surveyed. In the study, just under a third (31%) of respondents had dial-up access while the majority had faster wireless, satellite, digital subscriber line (DSL), or cable television connections.

Findings

Findings are reported below based on the results of both quantitative and qualitative analyses. Quantitative findings are reported with frequencies and descriptions of significant differences between demographic groups. Qualitative data are reported with verbatim quotes from participant surveys and conversations held during the two telephone focus groups.

Financial Practices, Knowledge, and Attitudes of Farm Households

One of the best ways to understand the financial practices of farm families is to examine their investment holdings. In this study, many farm families had experience with off-farm investments. Specifically, 91% had life insurance policies or annuities, 78% held cash assets such as certificates of deposit and money market funds, and 75% had a retirement savings accounts (e.g., IRAs and 401(k), SEP, or Keogh accounts). Having retirement savings accounts increased to 84% for those who felt they had a good or an excellent investment plan in place. Not surprisingly, the

Table 1. Characteristics of Survey Respondents ($N = 300$)

Respondent characteristics	<i>n</i>	%
Gender		
Male	117	39
Female	183	61
Age (years)		
25 – 34	32	11
35 – 44	68	23
45 – 54	96	32
55 – 65	104	35
Marital status		
Married	280	93
Single	7	2
Divorced	9	3
Widowed	2	1
No answer	2	1

Table 1. Characteristics of Survey Respondents (N = 300) continued

Respondent characteristics	n	%
Education		
Some high school	10	3
High school graduate	81	27
Vocational/technical school	13	4
Some college	66	22
College graduate	99	33
Advanced degree or course work	29	10
Refused	2	1
Household income		
Less than \$15K	13	4
\$15K - \$34K	22	7
\$35K - \$49K	38	13
\$50K - \$99K	79	26
\$100K or more	67	22
Refused	81	27
Farm/ranch sales 2007		
Less than \$250K	64	21
\$250K - \$499K	79	26
\$500K - \$999K	57	19
\$1M or more	31	10
Don't know/refused	69	23
Farm/ranch income as percent of household income		
Hardly any	7	2
Less than half	26	9
About half	32	11
More than half	111	37
All	109	36
Don't know/refused	15	5
Region		
North Central	143	48
Northeast	16	5
South	83	28
West	58	19
Internet connectivity		
Dial-up	94	31
DSL (Digital Subscriber Line)	91	30
Cable TV	15	5
Wireless or satellite connection	92	31
T-1 or fiber optic connection	1	< .05
Don't know/refused	7	2

Note. Percentages may not sum to 100% due to rounding.

most frequently reported item, held by 94% of the sample, was farmland and/or assets.

Additionally, almost half (48%) of those sampled owned individual stocks, bonds, or securities, and 43% owned mutual funds outside of a retirement savings plan. Over half (53%) contributed to a retirement savings account during the past year. Almost a third (30%) of respondents reported having a pension, which reflects the fact that 37% reported that someone in their household worked off-farm at a job that offers a retirement savings plan, and 93% of those in that category had a retirement account in place, compared to 65% of households without an off-farm worker.

Interestingly, respondents from farms with sales of \$500,000 or more were less likely than those with sales under \$500,000 to have someone in an off-farm job with access to a retirement savings account (26% versus 43%). Chi-square analysis confirmed that the association between total farm sales and off-farm work was significant ($\chi^2(8) = 23.0; p = .003$). About 1 in 7 (15%) respondents reported no investment in retirement accounts, individual stocks, or mutual funds, and over a third made no contributions to any of these investments during the past year.

These findings provide some support for H1: Many farm households do not have investment plans in place. However, the impact of this finding upon farm households' financial security may depend on their characteristics. Some farm households in the survey expressed a deep commitment to maintaining farm assets within the family from generation to generation and had no off-farm income, while others had no identified successor and off-farm income with fringe benefits and employment-based retirement savings opportunities. For the latter group of farmers, investment plans may be of greater concern due to the availability of employment-based savings opportunities and less certainty that farm assets can provide a continued stream of income.

Almost two thirds (65%) of respondents maintained separate accounts for personal and farm finances. This practice was particularly evident among younger farm families (ages 25-44), where 73% kept separate accounts versus 61% for 45-65 year olds. Focus group participants' opinions about the practicality of keeping separate business and personal accounts varied:

“Our software makes it easy. You just code each expenditure.”

“We tried to keep them separate, but it was too much work. Too much data entry.”

“Our bookkeeper keeps two sets of books. It has helped us get a better picture of our operations. I didn't realize how much we spent for food.”

With respect to attitudes about their finances, most respondents were somewhat confident (56%) or very confident (31%) that they had sufficient personal investments to meet their long-term goals. Only 12% indicated a lack of confidence and 1% did not know. Perhaps some of this confidence was misplaced; however, as an alarming 76% of respondents with fair, poor, or no investment plans indicated they were somewhat or very confident about the future. These findings mirror those of the annual Retirement Confidence Survey (RCS) conducted for the Employee Benefit Research Institute (EBRI) by Mathew Greenwald and Associates (see <http://www.ebri.org>), which, with the exception of 2008 to 2010 findings heavily influenced by the financial crisis, has generally found higher levels of confidence about financial security than is warranted by RCS respondents' current financial practices such as planning and saving for retirement (Helman, VanDerhei, & Copeland, 2008; Helman, Copeland, & VanDerhei, 2009). Among those in the current study with a good or an excellent investment plan in place, 93% were confident of having sufficient assets for long-term needs.

As another indicator of confidence, almost two thirds (64%) of respondents said they had a good (49%) or an excellent (15%) personal investment plan, compared to 26% of those with a fair or poor plan and 10% with no financial plan. Women were more likely than men to report having a good or an excellent personal investment plan (69% versus 56%). Chi-square analysis confirmed that the association between gender and having a positively perceived investment plan was significant ($\chi^2(5) = 17.05; p = .004$). Perhaps this is because women in farm households are more likely to have off-farm jobs and exposure to workplace investment plans and investment information.

A high level of confidence also carried over into respondents' assessment of their understanding of the basics of investing, which more than two thirds rated as good (52%) or excellent (16%). Conversely, 31% of respondents said they had a fair (26%) or poor (5%) understanding of the basics of investing. Respondents in this subgroup had less investment experience than others who were surveyed.

Two thirds (66%) of the sample reported having a good or an excellent understanding of investment issues for farm households, and three quarters said they had a good (63%) or an excellent (13%) understanding of their future household income needs. Particularly, female respondents noted a better understanding of future income needs than men (83% versus 66%).

Another clear disconnect between attitudes and financial practices was evident; however, with respect to respondents' self-assessment of their understanding of how diversification works. Two thirds rated their understanding as good (50%) or excellent (16%). Yet, as described in detail later, they also expressed a clear preference for investing in what is familiar to them, specifically their farm operation and farmland.

While 37% of respondents indicated no need for education on the basics of investing, 58% and 5% indicated some need and considerable need, respectively. Within the latter two subgroups, men indicated a greater need for investment education than women (71% versus 58%). Another key finding was that farm families were comfortable investing in farmland. Almost 9 in 10 (88%) agreed that their farm is a better investment than stocks. When asked specifically to compare investments in farmland versus the purchase of securities, 47% of respondents strongly agreed and 41% tended to agree with the statement "Our investment in our farm/ranch is a better investment than stocks/bonds." This finding provides support for H2: Many farm households are uncomfortable investing in unfamiliar markets.

In addition, most (84%) of the surveyed farmers did not expect to retire (i.e., stop farming) as much as cut back work hours or reduce the scope of their operation. More than half (51%) strongly agreed and 33% tended to agree with the statement "When the time comes, I expect to cut back from farming rather than to retire completely." This finding has significant implications for decisions that farm households make about investing and retirement asset withdrawals. Some focus group participants made comments about 401(k) plans that reflected their intimidation about selecting investments beyond their comfort zone:

"I work off the farm and get a 401(k) and health insurance. My husband's biggest problem with making investments in the 401(k) is trust. Someone is always trying to sell us something. They all have a vested interest."

"My wife works for a health insurance agency. It opens up a lot of opportunities. We established a 401(k) account, but I don't feel confident to use it. I figure you can invest when you have the dollars available. When times are good, you set something aside."

"If you are already working somewhere off the farm, they can offer you more opportunities to invest. Farming families are scared to invest off the farm. It is very different for salary earners."

One of the most pronounced findings from this study was farmers' emotional commitment to their farmland, which sets them apart from other investors. This result supports H3: Farm households have unique and often unmet investment education needs. However, as noted earlier, it would be wrong to assume that all farmers have the same investment needs. There are differences between full-time farmers planning to pass their land down to successors versus those with no successors who have investment options available through off-farm employment.

Another important finding was the extent to which business (farm) equity was the primary asset in farm family portfolios. As noted above, most respondents reported owning land or other farm assets, which they considered part of their personal portfolio and to which they became emotionally attached. This finding supports H4: Diversification is a difficult investment principle for farm households to implement. Farm operators tended to see land as their primary investment, as noted in the survey and focus group comments below:

"Selling land that has been in your family for generations is difficult. It's different from investing in stocks."

"We will never sell land. Farmers have a different perspective about that investment. We are blind to investing in other areas. We are knowledgeable about farmland."

"Cooperative Extension should tailor the program to a farmer's perspective. The question could be: do you buy more land or invest in the market? We wrestle with that. We don't get an emotional attachment to stock. Address that."

"We live on a century farm. It's in the blood. We'd take an off-farm job before giving up the farm. We've been buying more land over the past five years. It's a business asset, but it is still part of the family. We are building equity."

“Without land, there is no farming.”

Additionally, farmers who have considered alternative investments and weighed them against farmland were often reluctant to diversify beyond their comfort zone, as indicated by the following focus group comments:

“We have invested in the farm. We invested in a few funds and lost money. We are doing better investing in farm buildings than in the market.”

“I haven’t invested a lot. I tend to be in farmland and I would need to know why I should diversify. I got burned investing in a scam. I’d rather spend money on my farm.”

“We’ve invested in a bio-diesel plant because it is something I am close to. So far, there has been a lot of red ink. I guess that is not diversification.”

Comments such as these again support H2 about farmers’ discomfort with unfamiliar markets.

Sources of Investment Information for Farm Households

Respondents’ most frequently cited sources of investment information were family and friends (42%) and accountants and financial advisors (30%), with 10% listing Cooperative Extension as an investment information source. Quotes from focus group participants specifically identified lending institutions, insurance agents, investment brokers, financial planners, and accountants as information sources as well as trial and error and word of mouth through conversations with family and friends.

Seven in 10 (71%) of those surveyed agreed that resources are available in their community for investment plan-

ning, and 63% had met with a financial planner or broker. More than a third (38%) said they learned about investing from the Internet, and a third (33%) had attended a retirement seminar. Women were more likely than men to have learned from an accountant or financial advisor (74% versus 64%), the Internet (44% versus 27%), and financial software (33% versus 21%). The finding about gender differences in Internet usage supports H5: Women are more open to online investment education than men. About half (48%) of respondents with a good or an excellent investment plan said they learned a lot or some information about investing from Cooperative Extension. Not surprisingly, those who indicated no need for information on the basics of investing were less likely to use any of the possible information sources listed on the survey.

In response to a question about their level of trust for Internet sources of information about investing, Cooperative Extension was clearly the leader among this sample of farm households. This finding supports H6: Cooperative Extension agents rank high as trusted promoters of the OIE program. Table 2 shows the percentage of responses for each information source. This level of trust was reinforced with another finding that 25% of respondents were very likely and 60% somewhat likely to respond to an online investment education course upon the recommendation of their county Cooperative Extension agent.

With respect to the content of investment information, focus group comments indicated recognition that, while the basics of investing apply to everyone, farmers see themselves as being different than wage earners, thereby requiring a customized approach to investment education by information providers:

Table 2. Respondents’ Level of Trust for Internet Investment Information Sources (N = 300)

Source of Internet investment information	Level of trust			
	A lot %	Some %	A little %	Not at all %
Cooperative Extension Web sites	21	45	20	14
University or college Web sites	13	49	21	17
Securities and Exchange Commission (SEC) Web sites	11	45	25	19
State government Web sites	10	41	28	21
Consumer groups Web sites	8	42	26	24
Financial services companies Web sites	6	42	28	24

“We are not the same as people who buy stock by paycheck withdrawal. I can see the need for a basic class.”

“Americans do a poor job of saving money. Our credit card debt is so bad. We need to set aside for that rainy day. When you are borrowing for farm operations, it doesn’t seem to make sense to be investing in other things.”

“We need a neutral source. We need to start with the basics, such as how to use a Roth IRA.”

“In town, people earning a paycheck who have automatic withdrawal don’t give a hoot about what they invest in. We pay everything in large lump sums, so we see the check that goes to Social Security and taxes.”

This study revealed that the most frequently reported barriers to online investment education (OIE) for farm families were that it takes time (17%), a lack of perceived need (10%), a dislike for being online (9%), a distrust of computers, including concerns about confidentiality (5%), and a preference for personal contact (4%). The three primary perceived advantages of a Cooperative Extension OIE course were online convenience (11%), educational materials with a farm family focus (8%), and Cooperative Extension involvement (7%).

With respect to educational materials, the marketing analysis for the OIE project found scant competition from available online or off-line investment resources for materials that specifically address the financial situation of farm families. Further analysis revealed that younger farmers were more likely to mention the features of an online system as an appealing feature of OIE (16% versus 9%), which supports H7: Older farm households are less amenable to online investment education than younger ones. Older farmers were more likely to mention Cooperative Extension and a trust factor as appealing (9% versus 3%). Specific comments about Cooperative Extension as an investment content provider for farm households included the following:

“It [OIE] is geared towards farming, and they have more knowledge about it. I trust the Extension [Cooperative Extension] because they are local.”

“Compared to some other sources, I think Cooperative Extension can better understand how our family farms work rather than any normal business.”

“They have a strong history of helping people, and we have a good relationship with our local office. They care about agriculture.”

“Cooperative Extension is more unbiased than other sources.”

“I took part in this [focus] group because of Extension’s reputation. It is neutral and provides sound advice.”

“Extension has no vested interest and no profit motive. I also like how I can do it [OIE] on my own time schedule.”

Farmers’ Investment Education Content Preferences

Discussion about the content of an online investing course for farm households clearly indicated a preference for simplicity, convenience, and unbiased information. Some support was found for H8: An appeal of online education is that it is self-paced and allows for individual scheduling. Following are representative survey and focus group comments:

“I would be motivated to do it [take an investing course] if there is a class that would speak plain English instead of financial advisor’s terms.”

“Farmers are very busy. The information needs to be streamlined. It has to be user-friendly for the older farmers. They can’t get bogged down.”

“I assume that the program wouldn’t give preference to certain types of investments. I invested once in a Texas oil well scam. Since then, I put most of my money back into the farm.”

“I hope that it would be accessible, user friendly, and easily interactive.”

“The program needs to be in modules so people can use the parts that interest them. Also emphasize the need for both the husband and wife to evaluate their risk comfort level.”

“What I find appealing about this concept [online investor education] is that it would be available to me at all times.”

“Tell us what details we need to be looking for when someone pitches a certain product.”

“I can do it at home and I trust Cooperative Extension.”

Additionally, focus group participants requested content unique to their needs, particularly in the area of estate

planning and comparing the potential return on farmland versus that of alternative investments:

“We need information on how to make our land work for us in retirement. It is not a liquid asset. We want to pass it on. We need more depth on how to do it.”

“Cover how to keep the farm so it can pass to the next generation. We own a large chunk of land. How do we keep it in the family?”

“Farmers need to know how to determine what investments have potential. What is a good buy? The brokers just want to sell stock. We have no way to evaluate it and no time to study it. Cooperative Extension can tell us how to do that.”

“We need to know if buying more land is a better investment than a mutual fund.”

Motivators for Investment Education

In response to the survey question, “What would motivate you to become more informed about investing?,” the three most frequent responses were more money to invest (12%), more time (8%), and the economy (6%). Some focus group participants cited the vagaries of the economy as a determining factor of their interest in investing with comments such as “If the market was doing better, it would be important to know investment basics.” Other respondents said they would be motivated by focusing on a goal such as investing for college, retirement, or a better lifestyle. Below are representative comments:

“If I had some income that I could use for investments, I’d be motivated.”

“You don’t have steady income in farming. You really can’t invest.”

“I would be motivated if articles are not that complicated to understand. I don’t need to have an accounting degree to understand things. I just need time to go over it.”

“I need more time to sit down and study. I have two small children at home and I don’t have the time to learn about financial things.”

“My problem is time. I have to work on the farm and I also have other employment.”

“We are all busy. This is something that is easy to defer. You can always put off personal finance. It’s not like feeding the cows, which can’t wait.”

Another motivator for online investment education (OIE) that surfaced through both survey question responses and focus group discussions was farmers’ local Cooperative Extension agent(s) which supports H6 about Extension agents ranking high as trusted OIE promoters. As noted earlier, many farmers distrust educational programs from financial services companies because they perceive them to focus on sales more than education. In addition, some respondents disclosed prior negative experiences where they were burned with bad investments. Conversely, Cooperative Extension’s sponsorship of OIE was seen as appealing for both its non-commercial approach and because of respondents’ previous positive experiences with local Extension personnel.

Several questions in the market analysis were asked to determine the best outreach venues for the OIE course. They also helped to identify factors that could motivate extremely busy farm families to take the time to at least investigate the OIE course Web site. In response to the question “How likely would you be to respond to information you see or hear about the availability of Cooperative Extension’s online investment education for farm ranch households?,” a recommendation from a local Extension agent ranked the highest with 25% of respondents very likely and 60% somewhat likely to respond. Women were more likely to cite a Cooperative Extension agent as a referral source for OIE than men (27% versus 21%) and older farmers more than younger ones (27% versus 22%). Following are relevant comments:

“You can promote this program with the county agent. He gives us good information. Newsletters are a good idea. But the challenge is to get the farmer to actually take the time to take the course.”

“Promote it at the Farm Service Agency. Most of us have to go there at some time.”

“My son is an Extension educator. More people use them now as a resource to find information, rather than a teacher who walks them through it. Farmers need to be encouraged to look at the [OIE] site. One-on-one counseling isn’t practical.”

Table 3 lists various information sources and/or sources of referrals for online investor education and farmers’ perceived level of response to these education methods.

Farmers’ Preferred Education Methods

The percentage of responses for each of seven potential educational methods is shown in Table 4. Of particular

Table 3. Respondents' Likelihood of Responding to Information Sources About Online Investor Education (N = 300)

Information dissemination method/reference for OIE	Likelihood of responding		
	Very likely %	Somewhat likely %	Not at all likely %
Recommendation from local Cooperative Extension agent	25	60	15
Farm shows and meetings	11	70	19
Local university or college	10	66	24
National farm or ranch magazines	10	65	25
Someone who has seen Cooperative Extension online investor education Web site	13	61	26
Stories in local newspapers	11	61	28
E-mailed newsletters	13	56	31
National farm television broadcasts	6	57	37
Links on agricultural-related Web sites	6	56	38

interest for the development of an online Cooperative Extension investor education program, respondents' most preferred learning method was an Internet-based program from Cooperative Extension, which supports Hypothesis 6 about Cooperative Extension as a trusted information source. Small group meetings with other farmers and an Extension agent ranked a close second, which supports H9: A social component with an opportunity for interaction will be appealing to some learners. More men than women (32% versus 18%) expressed willingness to join an investment club, although this education method ranked last among eight options presented in Table 4. Willingness to use a Cooperative Extension online investment course, the number one ranked educational method, was very similar between genders (56% versus 58%).

The following survey and focus group comments provide additional insights into farmers' varied learning preferences:

"I want to have a one-on-one with the family's financial planner or a trusted professional and a friend or family member who is educated in financial planning."

"I would consider a one-on-one discussion about it [investing] with someone from the Extension Service [Cooperative Extension]."

"I prefer collaborative interaction over the Internet because the answers to my questions will be e-mailed to me right away."

"The computer would be a great way of learning about investing rather than meeting with other people."

"I just don't want to be in front of the computer. I want somebody to explain it all."

Farmers' Use of Technology and Connectivity

As shown in Table 1, two thirds of surveyed farm families reported having some type of broadband connection. Additional analysis indicated that farmers' age was not related to use of dial-up Internet services but their educational level was: 42% of those with no college education used dial-up compared to 26% of those with a college education. Additionally, women were more engaged with the Internet than men with 81% browsing the Internet and 86% reading and responding to e-mail versus 65% for both activities, for men. Women's higher frequency of Internet use, combined with the previous finding about farm women's use of the Internet as a source of investment information, supports H5: Women are more open to online investment education than men.

Almost 6 in 10 (58%) respondents reported using e-mail regularly and 20% occasionally, and 16% regularly paid their bills or transferred funds online (17% occasionally). Conversely, almost 4 in 10 (38%) indicated that they disliked using a computer. Men were more likely than women to dislike computers (44% versus 35%). Following are representative survey and focus group comments:

Table 4. Respondents' Preferred Investment Education Methods (N = 300)

Preferred investment education method	Willingness to use			
	Very %	Somewhat %	Not very %	Not at all %
Cooperative Extension Internet program	14	44	17	25
Meet with a group of farmers and Cooperative Extension agent	8	47	20	25
Printed workbook	9	40	22	29
Financial services company Internet program	8	40	22	30
Meet with group of farmers led by financial services company	5	41	24	30
Financial planning program in Quicken®	6	35	23	36
Six-session course at a high school	4	31	25	40
Investment club	2	22	30	46

“I am not comfortable in doing things over the Internet.”

“I don’t use computers that much, because I don’t have the time. I don’t use and trust computers with our investments and anything in our business.”

“It is maybe because of my age group. I don’t see truth in the Internet. There’s just more junk in the Internet and some things are just not true.”

“It would be the lack of hands-on, because I’m on the Internet. I don’t have the person here. I would be interacting with the computer instead of an actual person.”

Discussion

The primary objective of this study was to gain in-depth information about farm families in order to adapt an online investment course, *Investing for Your Future*, to meet their needs. Social marketing theory suggests that any successful effort to change behavior of program participants requires a thorough understanding of the targeted audience and that a one-size-fits-all educational approach is generally not well positioned for success. Rather, as noted by NEFE® (2004), “clients will respond best to approaches and suggestions that appeal directly to their most basic motivations (p. 42).” The current study found that farm households have unique investment education needs compared to other American households. While the basics of

investing are the same for everyone, the contexts in which these principles (e.g., asset allocation, dollar-cost averaging, and diversification) are understood and applied are significantly different for farmers.

Farm households are a distinct target audience for financial education. Their business career, caring for and earning a living from the land, often is more than a job; it is a lifestyle. So much so that more than three quarters of respondents did not expect to stop farming in later life as much as reduce their work hours or the size of their operation. Thus, retirement in the traditional sense (i.e., stopping work) is not an overriding financial objective.

The findings reveal that most farmers prefer investing in land and other farm-related assets instead of a portfolio of securities, which is the primary wealth-building tool for salaried employees. Further, an increasing number of farm family members engage in paid employment to supplement farm income and gain access to employee benefits such as health insurance. Findings suggest that some farm households lack confidence about investment choices, such as 401(k)s, offered through employers. Additionally, men comprised a higher share of those who indicated a need for education on the basics of investing.

The results indicate that farm households also mirrored the general population when it comes to personal finance. For example, farm households with a financial plan were

more likely than others to save and invest to meet their goals. Further, like many respondents to EBRI retirement confidence surveys over most of the past two decades (see <http://www.ebri.org>), farm households exhibited a high level of confidence about their financial futures even though little or no action might have been taken to assure financial security throughout the lifespan.

Another focus of this study was to determine farm families' propensity to engage in online learning offered by Cooperative Extension through its new learn anytime, anywhere site at <http://www.extension.org>. Clearly, trust in Extension as an unbiased, no-sales-attached source of information was a key finding of the study. This finding supports those of Bailey and Turner (1994) who found that, unlike financial planners, insurance agents, and lawyers, Cooperative Extension was considered an important source of personal finance information. Further, the current study found that, although use of online learning tools was not pervasive among farm families, largely due to limited broadband access, this option was welcomed if it originated from Extension. This finding was especially relevant for women and younger respondents.

Armed with the results of the aforementioned quantitative and qualitative analyses, *Investing for Your Future* has been retooled to reflect the life experiences and attitudes toward investing communicated by respondents.³ Following pilot testing of the revised course, additional adaptations were made in order to assure that the program meets the learning needs of the target audience. As a result of engaging in eXtension content, it is expected that farm families will increase their investment knowledge and improve their financial practices, leading to sustained financial security for themselves and generations to follow.

The effectiveness of online investment education (OIE) targeted to farm families will be the focus of upcoming program evaluation research. Until those findings are available, it is clear that without this study, OIE program developers would not have had the knowledge needed to reflect the culture, mindset, and learning needs of the targeted audience. Research such as this audience analysis frames the foundation for designing and delivering results-based, non-formal education. In an era of pervasive economic turmoil and increasingly limited funding for personal finance education, investing resources in a serious audience analysis is not only appropriate but is money well spent.

Implications

Following are 13 implications of the study for financial education providers:

- Farm households' confidence about their personal financial plans is high. In addition, many do not plan to retire completely. Thus, fear of a future without adequate resources to sustain them does not appear to be a strong motivator for farm households to become educated about investing. Farm succession concerns are much more salient.
- Upward trends in prices for farmland and stock market volatility and downturns tend to reinforce farmers' allegiance to land as an investment over stocks. The historical propensity of farmers to invest in farmland was reinforced during the 2008-2009 economic crisis and bear market. This is the environment into which OIE was pilot tested and introduced. A comparison of the historical performance of alternative investments (e.g., stocks) and farmland and the benefits of portfolio diversification needs to be addressed in investment education materials.
- Farm households have an emotional attachment to land, their primary investment, which can lead to an over-weighting of this asset class and limited diversification. Programs need to be tailored to this perspective. For example, tools that integrate farm accounts with personal accounts for planning purposes should be part of investment education for farm households. Specially designed financial worksheets can provide a comprehensive view of household net worth with farm and personal assets combined.
- Older farmers, particularly, have had considerable life experience operating their business. Even if they have not been formally educated on the basics of investing, they have had considerable experience investing in farm business assets, and this experience needs to be acknowledged in educational programming (e.g., in definitions of investment terms and case study examples).
- One of the major choices that affect the financial well-being of farm households is how farm operators and their spouses allocate their labor to farm and off-farm work. Off-farm employment is increasingly common for both farm operators and their spouses and needs to be incorporated into investment education programming (e.g., a

discussion of 401(k) plan advantages and common investment options). Farmers with off-farm employment likely have different investment education needs than full-time farmers.

- Diversification and risk management are important topics for farm families to understand because of their expressed preference for investing in what is familiar to them, specifically farm operations and farmland. Diversification principles are fundamentally the same for all investors, but a course for farm households needs to account for concentration of assets in farmland, many farmers' unwillingness to divest of land, and the risks inherent in farming. A curriculum focused on investment alternatives can empower farm families by removing informational barriers that prevent them from considering all options for their investment funds. After evaluating these alternatives, a farm household may determine that paying down debt (if present) is the best use of funds, or they may decide that off-farm investment options provide both diversification as well as a source of funds that can facilitate farm transfer plans (if desired). The correct investment path will be unique for each farm household as there is substantial diversity in the size and scope of U.S. farm enterprises.
- A primary obstacle to farmers taking advantage of OIE is limited availability of time. Messaging by program sponsors needs to convey that time spent reviewing OIE course materials is time well spent and that it is time that a farmer controls. After all, online education is available any time of any day. Additionally, OIE program marketing messages will be most effective during periods of less intensive labor, such as between harvest and planting time for crop producers.
- The time obstacle finding also suggests that information for busy farm households needs to be organized into convenient modules so learners can pick out topics of interest. In addition, teaching methods that capitalize on occasional teachable moments may be as effective, if not more so, than posting content that farmers may not take the time to seek out. For example, the "Ask an Expert" feature of eXtension provides personalized responses to users' questions upon demand via e-mail.
- Farm household income is often variable, especially for households that lack a steady off-farm income. This income variability has implications

for investment recommendations such as investing regular dollar amounts at regular time intervals (i.e., dollar-cost averaging). The principles of dollar-cost averaging remain true, but variance in farm income during each year and across the years presents challenges for farm families that need to be acknowledged. Some respondents seemed reluctant to commit to a system of regular investment deposits and need alternative strategies.

- An increasing number of women, whether due to widowhood, inheritance, or desire for a change in lifestyle, are choosing to be actively involved in farm business ownership and management. Online financial education programs catering to the special needs of farm women, who tend to use online options more readily than farm men, may have a higher likelihood of acceptance than gender-neutral programs.
- Given farmers' strong propensity for work well into later life, customized retirement asset withdrawal strategies are needed. Financial advisors can help them model possible future scenarios. For example, instead of the frequently recommended withdrawal rate of 4% of assets, with annual inflation adjustments, throughout retirement (Reichenstein, 2008), farm households might elect to withdraw less while they are still working (e.g., in their 60s and 70s) and then take more money out of savings later in life when they are physically unable to continue working (e.g., in their 80s and 90s).
- The finding that Cooperative Extension agents ranked high as trusted promoters of the OIE program bodes well for future marketing efforts. It is always easier to sell something to an existing customer than to a new one. Extension personnel at the local (county) level will need to buy into the OIE course to provide marketing support at the local level.
- As with any financial education effort, in order to be truly financially literate, a learner must engage in the full range of financial education topics including risk management through insurance, the wise use of credit, taxation, and estate planning. The latter is especially important for farm families where succession planning, to the next generation where possible, is part of the lifestyle choice of many farm families.

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Endnotes

- ¹ Cooperative Extension is a non-formal U.S. educational program that helps people use research-based knowledge to improve their lives. In most states, educational offerings are in the areas of agriculture; food, financial, and family issues; the environment; community economic development; and 4-H youth programs. The National Institute of Food and Agriculture (NIFA) of the United States Department of Agriculture (USDA) (the federal partner in the Cooperative Extension System), state governments through land-grant universities, and local county governments provide funding for Extension programming.
- ² The eXtension program is the online national Cooperative Extension information delivery system (see <http://www.extension.org>). It combines the efforts of more than 70 land grant universities to provide a single access point to research-based, peer-reviewed educational materials developed by Extension faculty across the nation.
- ³ The title of the online course that was developed during this study was *Investing for Farm Families*. Available at www.extension.org/pages/InvestingforFarmFamilies.