Differences in the Determinants of Retirement Preparation between Farm and Nonfarm Households

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ABSTRACT

As principal farm operators age, retirement and succession planning has become increasingly important to the U.S. agriculture industry. This study examined differences in the determinants of retirement preparation between farm and nonfarm households using the Survey of Consumer Finances. Factors such as risk preferences, financial capability, human capital, and other demographic characteristics of farmers that may play a role in their decision to plan for retirement were examined. Retirement planning was investigated by running three separate sets of logistic regressions on the overall sample, farm households, and nonfarm households. Likelihood of consulting a financial planner, expecting to leave a bequest, and household net worth were used as dependent variables. Results indicate some significant differences between farm and nonfarm households and highlight limitations in currently available data sets for studies such as this one. Implications for practitioners, researchers, and policymakers regarding farm family retirement and succession planning are discussed.

INTRODUCTION

According to the 2017 Census of Agriculture, the average age of principal farm[1] operators continues to increase and was 57.5 years, up 1.2 years from 2012. A third (34%) of farm operators are age 65+ (*2017 Census*, 2019). As many farm operators are fast approaching, at, or above typical retirement age, making decisions related to retirement and farm succession planning becomes exceedingly important for farmers, the agriculture industry, and society more broadly.

Regardless of occupation, retirement decision-making is a complex process that involves life-cycle consumption optimization and projections of income, tax rates, life expectancy, family structure, and so on. Many Americans underestimate their retirement expenses and hence enter their retirement years with inadequate savings. These individuals are at significant risk of experiencing shortfalls in their retirement income wealth (Hershey & Jacobs-Lawson, 2012; Skinner, 2007). Previous research

has identified various factors such as age, gender, marital status, presence of children, level of education, work satisfaction, and health that affect individuals' planning for retirement and timing of the decision to retire (Adams, 1999; Adams et al., 2002; Bogaert et al., 2019; Johnson, 2004; Johnson et al., 2003; Montalto et al., 2000; Shin & Kim, 2017; Shultz & Wang, 2007).

Decisions related to retirement are even more complex for farmers because their personal retirement decisions cannot be separated from the succession plan for the farm and day-to-day farm management decisions (Dunaway, 1991). Not only do aging farmers need to account for optimization and projections of income, taxes, continuing expenses, health and long-term care insurance, life expectancy, and family considerations to prepare for their retirement, they also need to consider succession planning for their agricultural operation.

Recent studies have shown that many baby boomer farmers do not have a formal retirement plan (Arbuckle, 2014; Schulz, Artz, & Gunn,

2017). Instead they plan to delay their retirement and continue to work on the farm rather than fully retiring for various reasons. Lack of a willing or viable successor is one challenge since farming has traditionally been an inherited business (Lobley et al., 2010). Only 8% of current farmers are age 35 or younger (Herath, 2019). Also, farmers often view their work as their identity and lifestyle, and they have high emotional values tied to their farm and work (O'Neill, Porter, Pankow, Schuchardt, & Johnson, 2010a). As farmers in the United States deal with financial difficulties, such as years-long low crop/livestock/dairy prices, increasing costs, tariffs and uncertainty in trade policy (Valladares, 2019), they may put off preparing for retirement.

While there is a growing need to study retirement of farmers and ranchers, there is limited empirical research available on the retirement decision-making process of those in this specific occupation. One of the reasons for limited research is the lack of data sets available that include financial and retirement information such as net worth, assets, debts, retirement savings, investments, and behavioral and sociopsychological factors impacting the retirement planning of farmers and ranchers. There is also little research on retirement preparation among farmers, especially in comparison with the nonfarm population.

To begin to address this gap, this study examined currently available data to determine if there exist any differences in factors explaining retirement preparation of farm and nonfarm families. The rising average age of farmers with no succession plan is problematic because these aging farmers will not be able to continue working indefinitely, leaving no one to run the farm operation and no planned resources for living and business expenses. It is important to establish determinants of retirement preparation or lack thereof for farming households and how those factors are different compared to other households. This information will be of value to policy makers, farm management and financial educators, and financial planning practitioners.

BACKGROUND AND PREVIOUS LITERATURE

Farmers in Later Life

Farmers regularly experience stress and changes. According to Braun (2019), the relentlessness of responsibilities, illness, injury, juggling additional jobs to make ends meet, intermingling of work and family life, frictions between generations, and unpredictable economic conditions, policies, and weather can lead to weariness, distress, despair, and decreased decision-making ability. Retirement can be a time of financial and emotional stress for any family, but may be even more stressful for farm households as it is often linked with farm succession decisions. Since farmers are more likely to be self-employed, they are less likely to be covered by traditional pensions or employer-sponsored retirement plans, making retirement planning even more important. Farm families experience volatility in their annual incomes due to weather, changes in commodity prices, and other factors outside of their control, making it difficult to plan and save for retirement (Lobley et al., 2010). When planning for retirement, considerations of how to prepare include not only financial, but also social and emotional factors. Previous research indicates that most farm families lacked a vision for retirement because they preferred the farming lifestyle and did not know what they would do with their time in retirement (DeVaney, 2003). The farmers in DeVaney's (2003) study looked at retirement much differently in financial terms than those working for an employer. Instead of investing in employer-sponsored pension plans or IRAs, farmers prepared by reducing debt, investing in land to use for rental income, and working off the farm to increase cash flow.

Several researchers have found that many farmers do not plan to retire or plan to semiretire from farming by identifying a successor and continuing to engage in the work of the farm but on a smaller scale (Goudy, 1982; Kirkpatrick, 2013; O'Neill et al., 2010a; O'Neill, Komar, Brumfield, & Mickel, 2010b). Semi-retirement addresses the "what to do with my time" dilemma (Lobley et al., 2010). According to the USDA Census of Agriculture, farmers are delaying retirement, but it is unclear for how long, what the reasons for the delay are, or what the sources of retirement income are that farmers may be considering (Kirkpatrick, 2013). The timing of retirement is important. If a farmer retires too early, the successor may not be prepared, and if he or she retires too late, poor planning may lead to the end of the farm as a productive enterprise (Kimhi & Lopez, 1999).

Many farmers do transition out of doing the labor of farming as they age, continuing to own the land. Retired farmers make up 38% of nonoperator landlords, and farmers approaching retirement are more likely to be landlords (*Farmland Ownership*, 2017). Nonoperator principal landlords tend to be older than principal operators with the average age of principal landlords at 66.5 years compared to 58.3 years for principal operators. Also, according to the Farmland Information Center (2014), 57% of all principal landlords were 65 and older and 69% of the land rented by principal landlords was owned by principals 65 and older. These senior principal landlords owned 37% of all the land rented for agriculture.

Farm Household Demographics

Farm operators are older than the U.S. labor force in general and are staying in farming longer than previous generations (Mishra et al., 2005; Thelin & Holmberg, 2010). As noted above, the average age of U.S. farmers was 57.5 in 2017, with relatively few farmers (8%) age 35 or younger (Herath, 2019; *2017 Census,* 2019). 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 longer than previous generations (Mishra et al., 2005). Another reason for the advanced age of farmers is a farm's status as the family home (*Beginning Farmers*, 2017). In one study that compared farmers and nonfarmers age 65 and older, 64% of farmers, 33% of nonfarming entrepreneurs, and 6% of employed nonfarmers were occupationally active (Thelin & Holmberg, 2010). Higher educational attainment, as well as age, off-farm income, and expected wealth were found to be related to the likelihood of having a succession plan for farmers, according to Mishra, El-Osta, and Shaik (2010). Most farm households control a substantial amount of wealth compared with U.S. households in general. However, a substantial share of this wealth is illiquid and is tied to the farm, principally farmland (Mishra et al., 2003; Mishra et al., 2005). In 2015, median farm operator household income exceeded U.S. median household income by 36%: $76,735 versus $56,516. Most farm households depend on nonfarm income (e.g., salaries, Social Security) to cover

some portion of their living expenses and smooth out the volatility in their cash flows (*Income and Wealth*, 2016). Farming is the primary occupation for only 42% of U.S. farmers. Most farmers (61%) also work jobs off the farm (Herath, 2019).

One-quarter of farmers' nonfarm assets are held in retirement savings accounts. Only 40% of farm households participate in some type of tax-deferred retirement savings account (e.g., IRA and Keogh accounts), compared with 60% of all U.S. households (Mishra et al., 2005). Farm households allocate their wealth among competing investments that include 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 et al., 2002; O'Neill et al., 2010a). Many farm households do little formal planning or investing specifically for retirement, typically investing surplus funds into the farm with hopes that it will provide necessary retirement income.

Succession Planning

Lack of a viable successor to run the farm was cited frequently as a barrier to retirement planning (DeVaney, 2003). Developing a succession plan is often a primary objective for farm families to be able to pass on the business to the next generation. Schulz et al. (2017) found that about 39% of cow-calf producers do not have a succession plan in place. Retirement from farming and farm succession are not a single event but, rather, interlinked processes that ideally take place over an extended time period (Lobley et al., 2010). Nevertheless, the increasing average age of farmers and reluctance to transfer farm management to successors has been well documented. A study of 418 Iowa farmers with an average age of 54 showed 27% intended never to retire and only 29% had identified a successor (Duffy et al., 2006). Similar results were found with Minnesota farm families where, prior to a cooperative extension workshop, 58% and 89% of 296 participants said they did not have an up-to-date estate plan and business transfer plan, respectively (Hachfeld et al., 2009).

Compared to many other professions, farming remains a largely inherited occupation where intrafamilial transfer of business control and ownership to the children or next generation is critical. It has

also been described as a "way of life," which makes it difficult for farm operators to step away from it (Lobley et al., 2010). According to the USDA Economic Research Service (Bigelow et al., 2016), approximately 70% of farmers consider family legacy to be a leading reason to keep their land. American Farmland Trust's Farmland Information Center estimates only 2% of U.S. farmland will transfer ownership each year and most of that will be through private transactions such as trusts, wills, gifts, or sales to family members (Maixner & Wyant, 2019). The rural lifestyle, self-employment, ability to work with livestock, and working with family members was cited as draws for future generations into the beef cattle production business by Schulz et al. (2017). Research also suggests that farm succession involves a gradually increasing set of decisions and tasks, known as the succession ladder, that begin with technical decisions, progress to tactical and strategic decisions, and end with financial decisions (Lobley et al., 2010).

Intrafamily succession is the process of leaving farm and farm-based assets through sound estate planning and bequests. This results in a smoother transition because it reduces the risk of ownership for the younger generation through the process of intergenerational risk sharing. This is especially important since both generations of farmers have a vested interest in the success of the farm. Intrafamily succession also provides aging farmers access to the farm business for livelihood even in old age (Pesquin et al., 1996). However, in practice this process of succession is not as smooth as it sounds. Inadequately planned successions increase the risk of dispute among siblings. The timing of transfer may not be desirable to the younger generation taking over management of the farm. Additionally, on many occasions, the child receiving the farm may not be the best suited or have the most interest in running the farm (Kimhi, 1995; Rosenzweig & Wolpin, 1985).

Some evidence has suggested that very few farmers seek professional advice to plan for their retirement or for their estate and succession planning goals (Kimhi & Lopez, 1999). According to previous studies, farmers share many characteristics that are similar to the identity of an entrepreneur, such as goal setting, planning ahead, and managing assets and businesses (Stanworth & Curran, 1976; Mikko Vesala et al., 2007). According to Mikko Vesala et

al. (2007), farmers also have greater ability to take risks and want to plan, preserve, and grow their assets. It is therefore expected that farmers who possess higher risk tolerance and have a greater stock of human capital—higher education attainment, income, and health—will reach out for professional financial advice when they recognize that they may not have sufficient information or expertise to do so independently. One study conducted by University of Minnesota Extension (Hachfeld et al., 2009) suggests that seeking professional financial advice related to succession and retirement planning may be beneficial to farm families. Hachfeld et al. (2009) found that providing participating farmers with information on the process of succession and estate planning resulted in a significant number of participants following through with developing and implementing estate and succession plans after attending the program.

Research Questions

As many farm operators approach retirement age, it is necessary to understand factors such as risk preferences, financial capability, human capital, and other demographic characteristics of farmers such as age, marital status, presence of children, educational level, race/ethnicity, and health that may play a role in their decision to plan for retirement. Considering the intertwined nature of retirement planning and succession planning for farmers, the decision to plan for retirement was determined to be best measured by the Survey of Consumer Finances (SCF) variables "Consulted a Financial Planner," "Expect to Leave a Bequest," and "Net Worth." Identification of strengths and weaknesses associated with the financial well-being of farmers will be useful for developing policies that lead to greater financial resiliency and sustained continuity of farming operations in households dependent on farming for a majority of their household income. The research questions for this study are as follows:

> *RQ1: What are the differences in the determinants of seeking professional financial advice between farm and nonfarm households?*
>
> *RQ2: What are the differences in the determinants of desire to leave a bequest between farm and nonfarm households?*

RQ3: *What are the differences in the determinants of net worth between farm and nonfarm households?*

METHODOLOGY

Data from the 2016 wave of the Survey of Consumer Finances (SCF) were used in this study. The SCF is a nationally representative data set maintained by the Federal Reserve and includes detailed information on the finances of U.S. households, including their savings, investments, assets and debt holdings, along with their demographic and socioeconomic information (Bucks et al., 2009). The 2016 wave of the SCF data set also includes some discernable information about farmers and ranchers. There are approximately 6,000 households included in the 2016 wave of the SCF. While this data set does not differentiate farming and ranching from several other occupations, it does track 166 households who reported "living on a farm or ranch," allowing us to compare "farm" and "nonfarm" households.

The variables used in this study are described in Table 1. Three dependent variables were used to explore the research questions of this study. The first dependent variable was whether the respondents had used the services of a financial planner. The binary variable was coded as '1' if they worked with a financial planner and as '0' if otherwise. The second dependent variable was for bequest expectations. The respondents were asked if they had planned to leave a bequest. This variable was also binary and coded as '1' if the respondents expected to leave a bequest and as '0' if otherwise. The third dependent variable was net worth. This was a continuous variable constructed directly from the computed value of net worth of respondents available in the SCF data set.

The independent variables included the demographic variables age, gender, marital status, number of children, and race/ethnicity. These variables have been included because of their association with wealth and financial decision making in past literature (Kim et al., 2019; Montalto et al., 2000; Shin & Hanna, 2017; Yao et al., 2005). Based on the findings from previous studies, age, being married, and being white are expected to be positively associated, and number of children is expected to be negatively associated, with seeking financial advice, bequest expectation, and net worth, while women are expected to be positively associated with seeking the services of a financial planner (Fan & Chatterjee, 2019; Kim et al., 2012; Salter et al., 2010). Socioeconomic control variables used in this study are educational attainment, family income, health status, health insurance coverage, and risk tolerance. These variables were included because of their positive association with net worth, and financial well-being and preparedness in previous studies (Kim et al., 2019; Montalto et al., 2000; Yao et al., 2005).

To examine the determinants of each of the dependent variables, three separate sets of regression analyses were run—for the overall sample, farm households, and the nonfarm households. For the two binary dependent variables used in this study, using a financial planner and bequest expectation, logistic regressions were used (Wooldridge, 2016). For the continuous dependent variable, net worth, ordinary least squares (OLS) regression was used. All of the regressions were unweighted, with a population weight used for descriptive statistics. If a participant had a missing observation for a particular dependent variable, that participant was removed from that corresponding regression. Thus, different regressions have slightly different sample sizes, noted in each table. Chow tests (Chow, 1960) were also run to determine whether the independent variables had different relationships for the two subgroups, farm and nonfarm households.

RESULTS

Summary Statistics

The summary statistics of the sample used in this study are shown in Table 1. The results from the *t*-tests indicate that the farmers (mean age 58.34 years old) were significantly older in age than the nonfarmers (mean age 51.54 years old). Also, when compared with the nonfarmers, a significantly higher percentage of farmers were married and white. Conversely, a lower percentage of the farmers were females or had children under the age of 18. A significantly lower percentage of farmers had an educational attainment of college or higher (21.79%) compared to the nonfarmers (34.29%). A significantly lower percentage of

Table 1. Descriptive Statistics

	Farm	Nonfarm	*t*-test
Respondents	166	6,082	
Age	58.34	51.54	***
Female	11.57%	27.81%	***
Married	68.59%	56.47%	***
Have Children	35.51%	40.91%	***
White	91.17%	67.55%	***
Nonwhite	8.83%	32.45%	***
Family Income	$115,359.61	$101,974.64	n.s.
Educational Attainment			
< HS	17.02%	12.59%	***
HS	29.02%	25.90%	*
Some College	32.17%	27.23%	***
> College	21.79%	34.29%	***
Have Health Coverage	93.15%	93.34%	
Health Status			
Excellent	19.06%	23.27%	***
Good	58.93%	49.75%	***
Fair	16.33%	21.10%	***
Poor	5.67%	5.89%	n.s.
Risk Tolerance			
Substantial Risk	5.86	4.10	**
Above Average	12.49	16.52	***
Average	38.30	38.59	n.s.
No Risk	43.35	40.79	n.s.
Consulted a Financial Planner	26.30%	33.38%	***
Received Inheritance	39.79%	19.50%	***
Expect to Receive an Inheritance	11.35%	12.54%	n.s.
Expect to Leave a Bequest	60.97%	32.50%	***
Financial Assets	$416,614.77	$330,482.04	n.s.
Nonfinancial Assets	$1,217,167.08	$436,650.17	***
Debt	$83,374.93	$95,769.88	n.s.
Net Worth	$1,550,406.92	$671,362.34	***

Note: *, **, and *** indicate significance at the 90%, 95%, and 99% levels, respectively.

farmers (19.06%) reported being in excellent health compared to nonfarmers (23.27%).

Although a significantly higher percentage of farmers reported having substantial risk tolerance, a higher percentage of nonfarmers reported having above-average risk tolerance. A significantly higher percentage of farmers reported receiving an inheritance (39.79% of farmers vs. 19.50% of nonfarmers) and expecting to receive a bequest (60.97% of farmers vs. 32.50% of nonfarmers). A lower percentage of farmers reported consulting a financial planner (26.30% of farmers consulted

a financial planner vs. 33.38% of nonfarmers). The farmers had a significantly higher amount of nonfinancial assets and net worth when compared with the nonfarmers.

Collinearity diagnostics were run on explanatory variables for each farm, nonfarm, and total sample group and are available upon request from the authors. For the farm group, nonfarm group, and full sample, the extreme eigenvalue and condition index numbers were for 0.008 and 32.63, 0.01 and 24.61, and 0.01 and 24.70 values respectively, suggesting correlation is not a problem. Multicollinearity checks were conducted with value inflation factors reported in Appendix 1. The highest value inflation factor is 3.65, far below the common standard of 10 that would indicate a potential multicollinearity issue.

Consulting Financial Planners

The logistic regression results for seeking financial advice are shown in Table 2. The results indicate age was positively associated with consulting financial planners for the full model ($b = 0.014$; $p < 0.01$) and for the nonfarm group ($b = 0.014$; $p < 0.01$). Being married, female, higher income, and more educated were positively associated with consulting a financial planner across all three models. Being white, compared to other racial/ethnic groups, was positively associated with consulting a financial planner in the full model ($b = 0.193$; $p < 0.01$) and nonfarm group ($b = 0.198$; $p < 0.01$). Having children was positively related to consulting a financial planner for the farm group, but negatively related for the full model and the nonfarm group.

Compared to respondents with 'fair' health status, those who reported excellent and good health were positively associated with consulting a financial planner in the full model and in the nonfarm group while negatively associated in the farm group. Having health insurance coverage was positively associated with consulting financial planners in the full model and nonfarm group. In addition, compared to respondents with average risk tolerance, those who were extremely risk averse ("no risk") were less likely to consult a financial planner across all three models. For the full model and nonfarm group, those who were willing to take above-average risk were more likely to have consulted a financial planner, while those who were willing to take substantial risk were less likely.

A Chow test was performed as a postestimation analysis to compare the estimates for the farm and nonfarm groups. Results indicate that factors associated with farm and nonfarm groups' financial related decisions differed significantly for consulting a financial planner.

Expecting to Leave a Bequest

The logistic regression estimation of the determinants for the expectation of leaving a bequest are shown in Table 3. Age is positively associated with the expectation of leaving a bequest in the full model ($b = 0.006$; $p < 0.01$) and in the nonfarm group ($b = 0.005$; $p < 0.01$). Being in a married household was negatively related to leaving a bequest in the full model ($b = -0.075$; $p < 0.05$) and in the nonfarm group ($b = -0.093$; $p < 0.05$). Women were less likely to leave a bequest in the full model ($b = -0.299$; $p < 0.01$) and in the nonfarm group ($b = -0.300$; $p < 0.01$), but were more likely to expect to leave a bequest in the farm group ($b = 1.029$; $p < 0.01$). Whites were negatively associated with the expectation of leaving a bequest in the full model ($b = -0.240$; $p < 0.01$) and in the nonfarm group ($b = -0.284$; $p < 0.01$). Having children was negatively related to leaving a bequest for the farm group.

Attainment of college or higher was positively associated with the expectation of leaving a bequest across all three models. Additionally, attainment of some college and high school education was positively associated with the expectation of leaving a bequest in the full model and in the nonfarm group. Family income was positively associated with leaving a bequest in the full model ($b = 0.003$; $p < 0.01$) and in the nonfarm group ($b = 0.003$; $p < 0.001$). "Excellent" and "Good" perceived health status were positively associated with leaving a bequest across all three groups. Additionally, "poor" health status ($b = 0.800$; $p < 0.10$) was positively associated with leaving a bequest in the farm group. Health insurance coverage was positively associated with leaving a bequest in the full model ($b = 0.141$; $p < 0.05$) and in the nonfarm group ($b = 0.129$; $p < 0.05$).

Table 2. DV = Consulted Financial Planner (Standard errors in parentheses)

	Full Model	Farm Group	Nonfarm Group
Observations	6,248	148	6,082
Age	0.014***	0.010	0.014***
	(0.001)	(0.007)	(0.001)
Female	0.228***	0.792**	0.222***
	(0.042)	(0.359)	(0.042)
Married	0.318***	0.538**	0.320***
	(0.037)	(0.265)	(0.037)
# of Children	−0.041***	0.152*	−0.044***
	(0.012)	(0.083)	(0.013)
White	0.193***	0.476	0.198***
	(0.030)	(0.324)	(0.031)
Education: (base = < HS)			
High School	0.487***	3.138***	0.432***
	(0.056)	(0.531)	(0.057)
Some College	0.604***	3.035***	0.553***
	(0.056)	(0.531)	(0.056)
College +	0.942***	2.874***	0.905***
	(0.054)	(0.536)	(0.055)
Family Income ($10k)	0.00010***	0.00191***	0.00008***
	(0.00003)	(0.00054)	(0.00003)
Health Status: (base = fair)			
Excellent	0.411***	−1.339***	0.442***
	(0.040)	(0.326)	(0.041)
Good	0.259***	−1.247***	0.290***
	(0.036)	(0.282)	(0.037)
Poor	0.104	-0.104	0.115*
	(0.067)	(0.483)	(0.068)
Have health insurance	0.256***	1.011	0.249***
	(0.062)	(0.539)	(0.062)
Risk Tolerance: (base = average)			
Substantial	−0.201***	−0.123	−0.193***
	(0.056)	(0.367)	(0.057)
Above Average	0.113***	0.059	0.113***
	(0.032)	(0.205)	(0.032)
No Risk	−0.821***	−1.893***	−0.801***
	(0.032)	(0.255)	(0.033)
Constant	−2.530***	−4.496***	−2.513***
	(0.092)	(0.965)	(0.093)
Adjusted R-Square	0.143	0.319	0.1424
Likelihood-ratio Chow test:	LR χ^2(p-value)	127.13 (0.0000)	

Note: *, **, and *** indicate significance at the 90%, 95%, and 99% levels, respectively. McFadden's R-squared is reported for adjusted R-square for logistic regression.

Table 3. DV = Expect to Leave a Bequest

	Full Model	Farm Group	Nonfarm Group
Observations	6,248	166	6,082
Age	0.006***	0.010	0.005***
	(0.001)	(0.007)	(0.001)
Female	−0.299***	1.029***	−0.300***
	(0.041)	(0.363)	(0.041)
Married	−0.075**	0.301	−0.093**
	(0.036)	(0.226)	(0.037)
# of Children	0.012	−0.182**	0.014
	(0.012)	(0.072)	(0.012)
White	−0.240***	0.114	−0.284***
	(0.029)	(0.307)	(0.030)
Education: (base = < HS)			
High School	0.229***	−0.179	0.260***
	(0.052)	(0.268)	(0.053)
Some College	0.439***	0.066	0.474***
	(0.051)	(0.263)	(0.053)
College +	0.767***	0.869***	0.815***
	(0.050)	(0.297)	(0.052)
Family Income ($10k)	0.00255***	−0.00017	0.00281***
	(0.00012)	(0.00025)	(0.00013)
Health Status: (base = fair)			
Excellent	0.459***	0.865***	0.448***
	(0.040)	(0.282)	(0.040)
Good	0.205***	0.472**	0.185***
	(0.036)	(0.229)	(0.036)
Poor	0.027	0.800*	0.024
	(0.066)	(0.423)	(0.068)
Have Health Insurance or not	0.141**	0.213	0.129**
	(0.056)	(0.389)	(0.057)
Risk Tolerance: (base = average)			
Substantial	0.483***	−0.556	0.494***
	(0.057)	(0.347)	(0.058)
Above Average	0.272***	−0.393*	0.285***
	(0.032)	(0.224)	(0.033)
No Risk	−0.511***	−0.582***	−0.514***
	(0.032)	(0.204)	(0.032)
Constant	−1.327***	-0.703	−1.284***
	(0.086)	(0.693)	(0.087)
Adjusted R-Square	0.164	0.1404	0.1707
Likelihood-ratio Chow test:	LR χ^2(p-value)	394.54 (0.0000)	

Note: *, **, and *** indicate significance at the 90%, 95%, and 99% levels, respectively. McFadden's R-squared is reported for adjusted R-square for logistic regression.

Risk aversion ("No risk") was negatively associated with leaving a bequest across all three groups. Above average and substantial risk tolerance were positively associated with the expectation of leaving a bequest in the full model and in the nonfarm group. Conversely, above-average risk tolerance ($b = -0.393$; $p < 0.10$) was negatively associated with the expectation of leaving a bequest in the farm group.

A Chow test was performed as a postestimation analysis to compare the estimates for the farm and nonfarm groups. Results indicate that factors associated with farm and nonfarm groups' financial-related decisions differed significantly for expecting to leave a bequest.

Determinants of Net Worth

The OLS regression results for determinants of net worth are shown in Table 4. Results indicate that age is positively associated with net worth in the full model ($b = 35.97$; $p < 0.01$) and in the nonfarm group ($b = 36.11$; $p < 0.01$), but negatively associated with net worth in the farm group ($b = -44.97$; $p < 0.01$). Being married is positively associated with net worth across all three groups, and number of children is positively associated with net worth in the full model ($b = 75.94$; $p < 0.05$) and in the nonfarm group ($b = 87.37$; $p < 0.05$). Whites were positively associated with net worth across all three groups. Educational attainment of college or higher was positively associated with net worth across all three models. Conversely, educational attainment of high school was negatively associated with net worth in the full model ($b = -245.34$; $p < 0.10$) and in the nonfarm group ($b = -252.23$; $p < 0.10$).

Family income was positively associated with net worth across all three groups. Excellent health status was positively associated with net worth in the full model and in the nonfarm group ($b = 473.676$; $p < 0.01$), but negatively associated with net worth in the farmer group ($b = -2578.20$; $p < 0.01$). Poor health status was negatively associated with net worth in the full model ($b = -336.84$; $p < 0.05$) and the nonfarm group ($b = -308.09$; $p < 0.05$). "Substantial" risk tolerance was positively associated with net worth across all three groups. Additionally, "above average" risk toler-

ance was also positively associated with net worth in the full model ($b = 560.38$; $p < 0.01$) and in the nonfarm group ($b = 616.83$; $p < 0.01$), but was negatively associated with net worth in the farm group ($b = -1101.80$; $p < 0.01$). "No" risk tolerance was negatively associated with net worth in the full model ($b = -212.97$; $p < 0.01$) and in the nonfarm group ($b = -165.48$; $p < 0.05$).

A Chow test was performed as a postestimation analysis to compare the estimates for the farm and nonfarm groups. Results indicate that factors associated with farm and nonfarm groups' financial-related decisions differed significantly for net worth.

DISCUSSION

This study explored three research questions related to seeking, planning, and accumulating wealth for retirement and intergenerational transfers among farmer and nonfarmer households. The results from this study indicate significant differences in the determinants of seeking financial advice, leaving a bequest, and net worth between the farmer and the nonfarmer groups.

Those who are married, female, of higher income, and more educated are more likely to consult a financial planner across all three groups (farm, nonfarm, and combined). Overall, the strongest association found in the estimation model was between having at least a college education and seeking financial advice, perhaps indicating a strong association between human capital and the decision to plan for one's retirement. It may also indicate that those attending college are more likely to be exposed to information or careers that encourage retirement planning. The findings reported here are consistent with the expected direction of the relationships and with the findings from previous studies that found being married, having higher income, and being better educated were positively associated with seeking financial advice (Kim et al. 2012; Salter et al., 2010). It was also expected that whites were more likely than other racial/ethnic groups to consult a financial planner (Salter et al., 2010). Consistent with this, our study also finds that whites were more likely to consult a financial planner in the combined and nonfarm groups. Health status has been associated with financial decision making in

Table 4. DV = Net Worth (Unit: $10k)

	Full Model	Farm Group	Nonfarm Group
Observations	6,248	166	6,082
Age	35.970***	−44.973***	36.111***
	(2.162)	(10.346)	(2.179)
Female	-2.336	−89.732	−25.343
	(101.290)	(510.927)	(101.753)
Married	482.190***	797.403**	480.595***
	(90.950)	(368.709)	(91.743)
# of Children	75.941**	−144.379	87.368***
	(30.517)	(115.646)	(30.867)
White	366.531***	1622.230***	357.235***
	(73.991)	(500.135)	(74.161)
Education: (base = < HS)			
High School	−245.340**	610.728	−252.225**
	(119.121)	(444.177)	(120.515)
Some College	-91.638	278.884	−166.548
	(119.912)	(433.385)	(121.339)
College +	402.651***	789.341*	396.889***
	(119.109)	(453.287)	(120.575)
Family Income ($10k)	6.807***	22.268***	6.633***
	(0.057)	(0.365)	(0.575)
Health Status: (base = fair)			
Excellent	422.653***	−2578.196***	473.758***
	(98.247)	(445.112)	(98.749)
Good	−2.824	−348.483	1.227
	(86.981)	(380.451)	(87.530)
Poor	−336.845**	−584.097	−308.090**
	(156.201)	(676.502)	(157.366)
Have Health Insurance or not	−80.267	1049.022	−90.199
	(136.033)	(658.192)	(136.682)
Risk Tolerance: (base = average)			
Substantial	1986.522***	1669.249***	2094.160***
	(144.917)	(539.075)	(146.758)
Above Average	560.382***	−1101.797***	616.830***
	(83.976)	(339.885)	(84.661)
No Risk	−212.971***	56.456	−165.475**
	(78.793)	(322.432)	(79.472)
Constant	−2140.126***	23.986	−2160.669***
	(205.143)	(1123.820)	(206.091)
Adjusted R-Square	0.350	0.831	0.347
Chow test:	F (p-value)	50.08 (0.0000)	

Note: *, **, and *** indicate significance at the 90%, 95%, and 99% levels, respectively. McFadden's R-squared is reported for adjusted R-square for logistic regression.

previous literature (Kim et al. 2012; Rosen & Wu, 2004). Similarly, the results from this study indicate that individuals with excellent or good health status were more likely to consult a financial planner in the combined group and the nonfarm group, but were actually less likely to consult a financial planner in the farm group. It is possible that farmer owners in excellent health plan to continue to work longer and therefore postpone their retirement-related decisions, including hiring financial planners, to plan for their retirement. However, more research is necessary to understand the dynamics between health status and financial planning. Additionally, those in the combined group and nonfarm group were more likely to consult a financial planner if they were willing to take above-average risk, but less likely if they were willing to take substantial risk.

The results also indicate that being female, higher educational attainment, and all but average health status are positively associated with the expectations of leaving a bequest for farm households. Among farm owners, females had the strongest association with the bequest motive in the estimation model. While it was expected from the findings of previous studies that educational attainment and health status would be positively associated with the likelihood of leaving bequests, being female has been negatively associated with bequest motives in previous literature (Fan & Chatterjee, 2019; Kim et al., 2012). The strong positive association between being a female farm owner and the bequest motive may be supported by recent reports that women, especially high net worth women, give more than men (Wolfson, 2018) and give differently than men (Fidelity Charitable, 2017). More research is necessary to investigate the reasons why female farm owners are more likely than male farm owners to plan for bequests and intergenerational transfers.

Those who are married, white, college educated, and substantial risk takers are more likely to have a higher net worth across all three groups (farm, nonfarm, and combined). Previous studies had found being female was negatively associated with net worth (Lusardi & Mitchell, 2007; Salter et al., 2010). The findings from this study show that while being female is negatively associated with net worth in the combined group, among farm

owners being female is positively associated with net worth. More research is needed in the future to examine this association. Similarly, age has been positively associated with wealth in previous studies (Lusardi & Mitchell, 2007; Salter et al., 2010). However, in the findings of this study, being older was inversely related to net worth for the farm group and positively related for the nonfarm and overall groups. This association between age and net worth for the farm families was the opposite of what was expected, and needs more investigation.

One of the limitations of this study is the small sample of farmers. Only 166 of 6,248 respondents indicated living on a farm or ranch, and this may not necessarily mean they are involved in day-to-day farming operations. While there were significant differences between farm and nonfarm households for many of the characteristics and behaviors examined, the small sample size dictates caution and the need to interpret these findings carefully. Another limitation of the SCF is the response categorizations of "Good" and "Excellent" for health status, and "Above Average" and "Substantial Risk" for risk tolerance. These responses are subjective and difficult to differentiate. Most importantly, the limitation of currently available data sets to study farm and ranch household retirement preparation supports the need for the development of a data set specifically for this purpose.

CONCLUSIONS AND IMPLICATIONS

Based on the results of the analyses, demographic characteristics influence utilization of financial advisers, bequest motives, and net worth of the households studied. In terms of similarities across model specifications, having a college degree or additional education was a significant and positive determinant of all of the dependent variables explored. The influence of other demographic characteristics on the retirement planning behaviors studied was mixed. Though not conclusive, the results of the analysis reported here do suggest that educational efforts could be targeted to specific demographic segments based on age, gender, marital status, number of children, race, education, and family income. More Cooperative Extension educational programs targeting retirement and

succession planning could greatly benefit farmers. Hachfeld and colleagues (2009) developed such a program that provided education and resources to farmers related to retirement planning and succession planning and resulted in the development and implementation of estate and succession plans by their target audience.

Farmers with more children were more likely to consult a financial planner and more likely to leave a bequest, likely due to the increased need for a succession plan when children are involved. All three groups were less likely to consult a financial planner if they indicated low risk tolerance. This is consistent with the literature (Kimhi & Lopez, 1999; Mikko Vesala et al., 2007) and may be explained by a lack of trust in financial planning professionals.

It is important for professional financial advisers and consultants who assist farmers and ranchers in their retirement preparation to understand the differences between farm and nonfarm families when helping them plan. Risk-averse farmers are less likely to seek out financial planners, so they would benefit from community-based programs that address topics of retirement planning and succession and estate planning. Those farmers who do seek financial advice may have higher levels of education, so they may be more understanding of the value the advice can provide. Farmers with higher levels of net worth are more likely to be white and with at least a college education. Additionally, farmers in excellent health are less likely to consult a financial planner, and farmers in poor health are more likely to leave a bequest. If in excellent health, farmers may think they will be able to continue working indefinitely and not retire. If in poor health, they may already be making plans for succession. These findings are in agreement with other research and support the notion that the complexity and length of the succession planning process may impact why a fairly low number of farmers have plans in place (Kimhi, 1995; Lobley et al., 2010; Rosenzweig & Wolpin, 1985; Schulz et al., 2017).

As found in research by Kimhi and Lopez (1999), farmers is this study are generally less likely than nonfarmers to seek out financial planners. They may, however, be more in need of this service than nonfarmers since they likely have higher net worth with more nonfinancial assets and are more likely to have received an inheritance and expect to leave a bequest themselves. These factors along with their volatile incomes (Lobley et al., 2010) and dependence on Social Security or other nonfarming income (Income and Wealth, 2016) make farmers possibly more in need of financial planning assistance than the general population. Other researchers (Kimhi & Lopez, 1999; O'Neill et al., 2010b; Schulz et al., 2017) have also found that farm families typically do minimal formal planning for retirement.

Farm management and financial educators as well as financial practitioners can use these findings to inform the development of materials for farm families. Since farmers tend not to plan or have additional tax-deferred retirement savings, targeted educational materials could be developed for this particular occupational group showing the importance of saving for retirement and succession planning. This may help motivate reluctant farmers into making retirement and/or succession plans.

Finally, the postestimation results comparing farm and nonfarm groups reinforces the need to collect detailed financial information about farmers, ranchers, and other agriculture producers. Predictors of financial decisions in this study resulted in differences between these two groups, but there is a definite lack of existing data on farmers and ranchers to facilitate the study of retirement preparation among this group and inform public policy on this issue. Public policy will influence how farmers prepare for retirement and how they prepare for succession of their farm assets. As more and more aging farmers quickly approach these decisions, this will have larger economic and sociological impacts in the short and long term. As recommended by Schulz et al. (2017), it is important to investigate alternative policies to ensure successful farm transitions and sustainable retirements for farmers. Policy and educational efforts aimed at motivating farmers to increase retirement preparedness need to be based on the understanding that these households differ in financial motivations and expectations from nonfarm households. Failure to take these differences into account may not result in desired outcomes.

Special outreach materials and programs (example: Rutgers Cooperative Extension's Later Life Farming website, http://laterlifefarming.rutgers

.edu/) for farm families might be useful to address their obstacles in succession planning. Similarly, specialized financial planning services and financial coaching for farmers could be useful in helping farm families prepare for retirement and transfer of the farming operation. Another option could be to explore programs with organizations such as the Future Farmers of America (FFA) that would help the next generation of farmers in being better informed and being financially better prepared than the previous generations.

Moving forward, further research that includes more respondents with the occupation of farming/ranching is essential. The researchers in this study had a difficult time finding adequate data sets in which participants' occupation was farming/ranching. The SCF only asks if participants live on a farm/ranch. That does not mean that they don't have an occupation outside of the farm/ranch operation. In a future iteration of the SCF it may be judicious to reconsider the categorization of health status and risk tolerance responses. The current categorizations of "Excellent" versus "Good" for health status and "Substantial" versus "Above Average" for risk tolerance are subjective and open to interpretation for farm and other audiences and need more clarity. Given the need for continuity of farms and the intertwined nature of retirement planning and succession planning among farmers, more research is needed to better understand the financial decision making and retirement planning behavior of farmers.

NOTE

1. Throughout this paper the term farm also includes those living on a ranch.

REFERENCES

2017 Census of Agriculture Highlights. (2019). *Farm producers: Revised census questions provide expanded demographic information.* U.S. Department of Agriculture National Agriculture Statistics Service. Retrieved October 20, 2019 from https://www.nass.usda.gov/Publications/Highlights/2019/2017Census_Farm_Producers.pdf

Adams, G. A. (1999). Career-related variables and planned retirement age, an extension of Beehr's model. *Journal of Vocational Behavior, 55*, 221–235.

Adams, G. A., Prescher, J., Beehr, T. A., & Lepisto, L. (2002). Applying work-role attachment theory to retirement decision-making. *International Journal of Aging and Human Development*, *54*(2), 125–137. Retrieved from http://journals.sagepub.com/doi/abs/10.2190/JRUQ-XQ2N-UP0A-M432

Arbuckle, J. G. (2014). Iowa farm and rural life poll. *2014 summary report*. Retrieved from https://store.extension.iastate.edu/Product/Iowa-Farm-and-Rural-Life-Poll-2014-Summary-Report

Beginning farmers and age distribution of farmers. (2017). Washington, DC: U.S. Department of Agriculture Economic Research Service. Retrieved from https://www.ers.usda.gov/topics/farm-economy/beginning-disadvantaged-farmers/beginning-farmers-and-age-distribution-of-farmers/.

Bigelow, D., Borchers, A., & Hubbs, T. (2016). *US farmland ownership, tenure, and transfer.* USDA Economic Research Service. Available: https://www.ers.usda.gov/webdocs/publications/74672/eib-161.pdf?v=0

Bogaert, K., Leider, J. P., Castrucci, B. C., Sellers, K., & Whang, C. (2019). Considering leaving, but deciding to stay: A longitudinal analysis of intent to leave in public health. *Journal of Public Health Management and Health, 25*, S78–S86.

Braun, B. (2019). *Farm family stressors: Private problems, public issue.* NCFR Policy Brief. Retrieved October 20, 2019 from https://www.ncfr.org/resources/research-and-policy-briefs/farm-family-stressors-private-problems-public-issue

Bucks, B. K., Kennickell, A. B., Mach, T. L., & Moore, K. B. (2009). Changes in US family finances from 2004 to 2007: Evidence from the Survey of Consumer Finances. *Fed. Res. Bull. A1*, *95*.

Chow, G. C. (1960). Tests of equality between sets of coefficients in two linear regressions. *Econometrica: Journal of the Econometric Society*, 591–605.

DeVaney, S. (2003). Research applications in financial preparation for retirement. In *Research applications in the family and consumer sciences*. Association of Family and Consumer Sciences.

Duffy, M. D., Baker, J., & Lamberti, A. (2006). Farm succession in Iowa. Beginning Farmer Center. Retrieved from http://econ2.econ.iastate.edu/faculty/duffy/Pages/farmsuccession.pdf

Dunaway, R. (1991). Transferring resources: Helping a child farm, retirement and inheritance shaped this plan. *Farm Journal*, *115*, 26.

Farmland Information Center. (2014). 2014 tenure, ownership, and transition of agricultural land survey. Retrieved February 6, 2018 from http://www.farmlandinfo.org/sites/default/files/2014_Tenure_Ownership_and_Transition_of_Agricultural_Land_Survey_AFT_FIC_06-2016.pdf

Farmland ownership and tenure. (2017, April 10). USDA Economic Research Service. Retrieved February 6, 2018 from https://www.ers.usda.gov/topics/farm-economy/land-use-land-value-tenure/farmland-ownership-and-tenure/.

Fan, L., & Chatterjee, S. (2019). Bequest expectations among the US older adults: The roles of generational differences and personality traits. *Financial Planning Review*, *2*(3–4), e1057.

Fidelity Charitable. (2017). *Women and giving: The impact of generation and gender on philanthropy*. Available: https://www.fidelitycharitable.org/content/dam/fc-public/docs/insights/women-and-giving.pdf

Goudy, W. J. (1982). Farmers, too, must plan for retirement. *Journal of Extension*, *20*, 9–14. Retrieved from https://www.joe.org/joe/1982november/82-6-a2.pdf.

Hachfeld, G. A., Bau, D. B., Holcomb, C. R., Kurtz, J. N., Craig, J. W., & Olson, K. D. (2009). Farm transition and estate planning: Farmers' changes due to attending workshops. *Journal of Extension*, *47*(2). Retrieved from https://www.joe.org/joe/2009april/a8.php.

Herath, J. (2019, April 12). 2017 Ag census: Who is running the farm? *Farm Journal Ag Web*. Retrieved October 20, 2019 from https://www.agweb.com/article/2017-ag-census-who-is-running-the-farm

Hershey, D. A., & Jacobs-Lawson, J. M. (2012). Bridging the gap: Anticipated shortfalls in future retirement income. *Journal of Family and Economic Issues*, *33*(3), 306–314.

Income and wealth in context (2016). U.S. Department of Agriculture Economic Research Service. Retrieved from https://www.ers.usda.gov/topics/farm-economy/farm-household-well-being/income-and-wealth-in-context/.

Johnson, R. W. (2004). Do spouses coordinate their retirement decisions? *Center for Retirement Research Issue Brief No. 10*. Retrieved from https://www.researchgate.net/profile/Richard_Johnson10/publication/23647857_Do_Spouses_Coordinate_Their_Retirement_Decisions/links/0912f5087d89be64a7000000.pdf

Johnson, R. W., Davidoff, A. J., & Perese, K. (2003). Health insurance costs and early retirement decisions. *ILR Review*, *56*(4), 716–729. Retrieved from http://journals.sagepub.com/doi/df/10.1177/001979390305600410

Kim, E. J., Hanna, S. D., Chatterjee, S., & Lindamood, S. (2012). Who among the elderly owns stocks? The role of cognitive ability and bequest motive. *Journal of Family and Economic Issues*, *33*(3), 338–352.

Kim, K. T., Mountain, T. P., Sherman, S. D., & Kim, N. (2019). The decrease in life insurance ownership: Implications for financial planning. *Financial Services Review*, *28*(1), 1–16.

Kimhi, A. (1995). Differential human capital investments and the choice of successor in family farms. *American Journal of Agricultural Economics*, *77*(3), 719–724.

Kimhi, A., & Lopez, R. (1999). A note on farmers' retirement and succession considerations: Evidence from a household survey, *Journal of Agricultural Economics, 50*(1), 154–162.

Kirkpatrick, J. (2013). Retired farmer—an elusive concept. *Choices: The Magazine of Food, Farm, and Resource Issues, 28*(2), 1–4.

Lobley, M., Baker, J. R., & Whitehead, I. (2010). Farm succession and retirement: Some international comparisons. *Journal of Agriculture, Food Systems, and Community Development*, *1*(1), 49–64. Retrieved from https://www.foodsystemsjournal.org/index.php/fsj/article/view/10.

Lusardi, A., & Mitchell, O. S. (2007). Baby boomer retirement security: The roles of planning, financial literacy, and housing wealth. *Journal of Monetary Economics*, *54*(1), 205–224.

Maixner, E., & Wyant, S. (2019, February 5). Big changes ahead in land ownership and farm operators? *AgriPulse*. Retrieved October 20, 2019 from https://www.agri-pulse.com/articles/11869-big-changes-ahead-in-land-ownership-and-farm-operators

Mikko Vesala, K., Peura, J., & McElwee, G. (2007). The split entrepreneurial identity of the farmer. *Journal of Small Business and Enterprise Development*, *14*(1), 48–63.

Mishra, A. K., Durst, R. L., & El-Osta, H. S. (2005). *How do U.S. farmers plan for retirement?* USDA Economic Research Service. Retrieved from https://www.ers.usda.gov/amber-waves/2005/april/how-do-us-farmers-plan-for-retirement/.

Mishra, A. K., El-Osta, H. S., Morehart, M. J., Johnson, J. D., & Hopkins, J. W. (2002). *Income, wealth, and the economic well-being of farm households* (No. 812). USDA Economic Research Service. Retrieved from https://www.ers.usda.gov/webdocs/publications/41451/31359_aer812fm.pdf?v=41271.

Mishra, A. K., El-Osta, H. S., & Shaik, S. (2010). Success decision in U.S. family farm businesses. *Journal*

of *Agricultural and Resource Economics, 35*(1), 133–152.

Mishra, A. K., Johnson, J. D., & Morehart, M. J. (2003). *Retirement and succession planning of farm households: Results from a national survey*. National Public Policy Education Committee. Retrieved from https://www.researchgate.net/profile/Ashok_Mishra4/publication/238104160_Retirement_and_Succession_Planning_of_Farm_Households_Results_from_a_National_Survey/links/00b7d52716f89c9b8c000000.pdf

Montalto, C. P., Yuh, Y., & Hanna, S. (2000). Determinants of planned retirement age. *Financial Services Review, 9*(10), 1–15. Retrieved from http://www.sciencedirect.com/science/article/pii/S105708100000524?np=y&npKey=c9f83c0714d8b2bff13826b0534aec520918fe4454faa94d58fe1b36f636b5c7

O'Neill, B., Porter, N. M., Pankow, D., Schuchardt, J., & Johnson, J. (2010a). Online investment education: Listening to learners to develop an effective financial literacy program for farm households. *Journal of Financial Counseling and Planning, 21*(1), 26–42. Retrieved from https://my.afcpe.org/system/journals/volume_21_issue_1/oneill_porter_pankow_schuchardt_johnson.pdf.

O'Neill, B., Komar, S. J., Brumfield, R. G., & Mickel, R. (2010b). Later life farming: Retirement plans and concerns of farm families. *Journal of Extension, 48*(4). Retrieved from https://www.joe.org/joe/2010august/a6.php.

Pesquin, C., Kimhi, A., & Kislev, Y. (1996). *Old age security and intergenerational transfer of family farms*. Working Paper No. 9604. Centre for Agricultural Economic Research, Rehovot, Israel.

Rosen, H. S., & Wu, S. (2004). Portfolio choice and health status. *Journal of Financial Economics, 72*(3), 457–484.

Rosenzweig, M. R., & Wolpin, K. I. (1985). Specific experience, household structure, and intergenerational transfers: Farm family land and labor arrangements in developing countries. *Quarterly Journal of Economics, 100*(Supplement), 961–987.

Salter, J. R., Harness, N., & Chatterjee, S. (2010). Utilization of financial advisors by affluent retirees. *Financial Services Review, 19*(3), 245–264.

Schulz, L. L., Artz, G. M., & Gunn, P. J. (2017). Succession planning and perceived obstacles and attractions for future generations entering beef cattle production. *Journal of Applied Farm Economics, 1*, 1. Available: http://docs.lib.purdue.edu/jafe/vol1/iss1/1

Shin, S. H., & Hanna, S. D. (2017). Accounting for complex sample designs in analyses of the Survey of Consumer Finances. *Journal of Consumer Affairs, 51*(2), 433–447.

Shin, S. & Kim, H. (2017). Marital status, health, and retirement wealth for middle aged and older women, *Financial Services Review, 26*, 255–270.

Shultz, K. S., & Wang, M. (2007). The influence of specific physical health conditions on retirement decisions. *International Journal of Aging and Human Development, 65*(2), 149–161. Retrieved from http://journals.sagepub.com/doi/pdf/10.2190/AG.65.2.c

Skinner, J. (2007). Are you sure you're saving enough for retirement? *Journal of Economic Perspectives, 21*(3), 59–80.

Stanworth, M. J. K., & Curran, J. (1976). Growth and the small firm—an alternative view. *Journal of Management Studies, 13*(2), 95–110.

Thelin, A., & Holmberg, S. (2010). Farmers and retirement: A longitudinal cohort study. *Journal of Agromedicine, 1*, 38–46. Retrieved from http://www.tandfonline.com/doi/abs/10.1080/10599240903389623.

Valladares, M. R. (2019, August 12). Trump's trade wars are hurting Midwest farmers, banks, and state coffers. *Forbes*. Retrieved October 20, 2019 from https://www.forbes.com/sites/mayrarodriguezvalladares/2019/08/12/trumps-trade-wars-are-hurting-midwest-farmers-banks-and-state-coffers/#133007535140

Wolfson, A. (2018, October 26). Why women give so much more to charity than men. *MarketWatch*. Retrieved June 15, 2020 from https://www.marketwatch.com/story/why-women-give-so-much-more-to-charity-than-men-2018-10-26

Wooldridge, J. M. (2016). *Introductory econometrics: A modern approach*. Nelson Education.

Yao, R., Gutter, M. S., & Hanna, S. D. (2005). The financial risk tolerance of Blacks, Hispanics and Whites. *Journal of Financial Counseling and Planning, 16*(1), 51–62.

Appendix 1. Variance Inflation Values

	Full Model	Farm Group	Nonfarm Group
Age	1.29008	1.55864	1.29
Female	1.92504	1.71026	1.93
Married	2.03470	1.76828	2.04
# of Children	1.24979	1.41615	1.25
White	1.16551	1.13681	1.17
Education: (base = < HS)			
High School	2.53797	2.56624	2.55
Some College	2.79710	2.64814	2.81
College +	3.65213	3.02631	3.69
Family Income ($10k)	1.03460	1.13566	1.03
Health Status: (base = fair)			
Excellent	2.03544	2.32563	2.03
Good	1.98345	2.38248	1.98
Poor	1.22568	1.42265	1.23
Have Health Insurance	1.07247	1.18580	1.07
Risk Tolerance: (base = average)			
Substantial	1.08349	1.32072	1.08
Above Average	1.21679	1.30261	1.22
No Risk	1.45905	1.46578	1.46