Risk Tolerance of Family Business Owners

This study examines risk tolerance of family business owners using data from the 1995 Survey of Consumer Finances. Findings show that family business owners are more willing than non-owners to take financial risks and actually taking higher risks in their asset portfolios. Age, race, net worth, and number of employees have affected both risk tolerance attitudes and behavior of family business owners.

Jing J. Xiao, University of Rhode Island[1]
M. J. Alhabeeb, University of Massachusetts[2]
Gong-soog Hong, Purdue University[3]
George W. Haynes, Montana State University[4]

Family business owners can be considered as a special type of clients for financial planning professionals. An ethical and regulatory financial planner would select investment options based on his/her clients' investment objectives, financial capacity to absorb a loss, and psychological propensity for risk-taking (Roszkowski, 1993). Every client wants to achieve the highest possible investment return, but not every client can take the same level of risk that the high return usually requires. In addition, clients have difficulty estimating risks of future events (Evensky, 1998). One of financial planners' responsibilities is to help their clients understand the real risk in investments and achieve the highest return under constraints of clients' financial capacities and risk tolerance levels. Thus, understanding risk tolerance of each client is closely related to client satisfaction. In addition, since family business owners face risky decisions in both family and business financial planning, factors associated with risk tolerance among family business owners may be different from people of other types of families.

Although several empirical studies have examined factors associated with individual's risk tolerance (Sung & Hanna, 1996; Schooley & Worden, 1996; Jianakoplos & Bernasek, 1997; Grable & Lytton, 1998), none has addressed risk tolerance of family business managers. Secondly, previous researchers either openly state or imply that both entrepreneurs and managers are risk-takers compared to the general population (Masters & Meirer, 1988), but no study has directly compared the two groups. To fill these research gaps, this study has three objectives: (1) to compare family business owners and non-owners in terms of risk tolerance attitudes and behavior, (2) to explore family and business characteristics that differentiate risk tolerance attitudes and behavior among family business owners, and (3) to examine the consistency between risk tolerance attitudes and behavior among family business owners. The findings will provide insights for financial planning professionals to better understand risk tolerance of families that own businesses. Family business owners would also be benefited from the findings to understand their risk-taking behavior relative to others. In addition, educators working with business owning families may find useful information from the findings to enrich personal finance and consumer economics courses.

Literature Review

Risk Tolerance

Along with clarity and specifics of goals, investment horizon, and financial stability, a person's risk tolerance is one of the essential components in the process leading to an effective investment management in both corporate and personal settings (Garman & Forgue, 1997; Sharpe, Alexander, & Beiley, 1995). Friend and Blume (1975) have developed an economic framework to measure the risk tolerance that is used in many empirical studies. However, this framework only focuses on the relationship between the risk tolerance and wealth, but the effects of other individual and family characteristics are not addressed theoretically (Jianakoplos & Bernasek, 1998). Hanna and Chen (1997) have done a simulation study to explore the relationship between risk tolerance, planning horizon, and wealth. They concluded that even investors with very low subjective risk tolerance levels should have aggressive portfolios if their planning horizons are 20 years or longer. Their findings provided useful prescriptive guidelines for personal financial planning. However, to understand the actual behavior of risk tolerance, empirical studies based on survey data are needed.

Four recent empirical studies have investigated factors associated with people's risk tolerance. Two studies focused on risk tolerance attitudes (Grable & Lytton, 1998; Sung & Hanna, 1996). The third study examined determinants of risk tolerance behavior (Jianakoplos & Bernasek, 1997) and the fourth explored the relationship between risk tolerance attitudes and behavior (Schooley & Worden, 1996). The aforementioned empirical studies have two limitations. First, none of these studies focused on family business owners. Second, none of them compared families that own businesses and those that do not own businesses in terms of risk tolerance. This study attempts to address these issues.

Risky Decisions in Family Businesses

The previous studies analyzed risk tolerance patterns of people in general. For family business owners, additional considerations should be taken from the business perspective. Family businesses face many risky decisions: should the family provide loans for business purposes, should the business grow or remain in the same scale, should the business be managed by non-family members? The level of risk tolerance, along with financial capacities and long term goals of family business owners, would directly influence decisions on these issues.

Whether or not to intermingle family finances and business finances is a risky decision. Previous studies have suggested that households engaging in small business ownership have substantially higher debts and a higher probability of borrowing from commercial banks and family members than those households not engaged in any small business ownership (Haynes & Avery, 1997). This suggests that finances of the business and family may be intertwined by family members making direct loans or grants to the business, borrowing money from the business, pledging personal assets as collateral for business loans and numerous other ways.
In a recent study utilizing the National Family Business Study, Walker, Haynes, Rowe, and Hong (1998) examined the intermingling between family and business resources. Their results suggested that female business owners are more likely to intermingle resources than their male counterparts.

The intermingling between family and business finances is one of many risky decisions faced by family business owners. These risky decisions are affected by the level of risk tolerance among many other factors. To better understand how family business owners make risky financial decision for the family, business, and both, we should understand factors associated with their risk tolerance levels.

Hypotheses

In this study, we consider two indicators that reflect risk tolerance of family business owners: risk tolerance attitudes and behavior. Based on previously discussed theoretical and empirical work, we have following two sets of hypotheses.

Comparison between Family Business Owners and Non-owners

Compared to other people, family business owners have a risky asset, the business. Since the success rate of small businesses is very low and many family businesses belong to this category, family business owners are taking above average financial risks compared to the general population. On the other hand, family businesses usually have more financial resources that allow them to afford to take above average risks. Previous studies showed that self-employment, that is the case for many family businesses, had positive effects on risk taking attitudes (Sung & Hanna, 1996; Grable & Lytton, 1998). Thus, we hypothesize that family business owners would be more willing to take financial risks and they would actually take higher risks in their asset portfolios, compared to other people who do not own a business.

Determinants of Risk Tolerance among Family Business Owners

According to the theoretical prediction, wealth is related to risk tolerance. More specifically, the accumulation of family wealth would decrease the level of relative risk aversion (RRA) (Friend & Blume, 1975), or increase the level of risk tolerance. This notion has been supported by some empirical studies (Schooley & Worden, 1996; Jianakoplos & Bernasek, 1997). Variables that may help increase family wealth, such as family income, could increase the level of risk tolerance. Previous studies indicated non-investment income (Sung & Hanna, 1996) or total income (Grable & Lytton, 1998) positively affected risk tolerance attitudes. People with higher educational level, implying higher income level, should have higher level of risk tolerance, which is supported by previous studies on risk taking attitudes (Sung & Hanna, 1996; Grable & Lytton, 1998) or behavior (Jianakoplos & Bernasek, 1997). In the same line of reasoning, other variables associated with family wealth should affect the level of risk

tolerance. These variables include household size and home ownership. Previous studies showed that the number of young dependents in a household had negative relationship with the proportion of risky assets held by married couples (Jianakoplos & Bernasek, 1997). Home ownership is expected to have a positive effects on risk tolerance, but the negative relationship was found in an empirical study (Jianakoplos & Bernasek, 1997).

Some variables are not directly related to wealth but may be related to psychological or cultural factors. Gender and marital status differences are found in risk taking attitudes (Sung & Hanna, 1996; Grable & Lytton, 1998) and behavior (Jianakoplos & Bernasek, 1997). The effect of race is mixed in previous studies. Whites are found to be more willing to take risks than nonwhites (Sung & Hanna, 1996). However, the results of risk taking behavior are mixed. One study found that whites are more likely than nonwhites to have risky assets among married couples (Jianakoplos & Bernasek, 1997), but another study had an opposite result using a sample including both married and single families (Schooley & Worden, 1996). Since cultural factors may be involved in risk tolerance, we assume that whites would show a higher level of risk tolerance than nonwhites.

Age is found to have effects on both risk tolerance attitudes and behavior. People are more willing to take risks at younger age (Sung & Hanna, 1996). The age effects on risk taking behavior showed a reverse-U-shape (Jianakoplos & Bernasek, 1997). Age may be related to both financial and psychological factors. People would increase their income and savings when they are getting older and working. Their income would be increasing at a lower rate or even decreasing when they approach retirement. On the other hand, a person's health is negatively related to one's age, which is related to a person's psychological perceptions and confidence. Then age effects would be contributed from both economic and psychological factors. Age could have a reverse-U-shaped or negative effect on the level of risk tolerance.

Since we cannot locate studies on risk tolerance of family business owners, we based our hypotheses on two sets of factors, economic and psychological. In the context of business, variables indicating the level of financial resources should have positive effects on the level of risk tolerance. These variables include number of employees, years in business, and gross sale. Some business characteristics may reflect a person's psychological traits that relate to risk tolerance. We assume that the number of businesses owned, having started a business, and sole proprietorship would be positively related to the level of risk tolerance.

Methods

Data and Sample

The data used in this study were from the 1995 Survey of Consumer Finances (SCF), which was sponsored by the Federal Reserve Board. The data were collected from personal interviews with a large number of randomly selected households in the U. S. The SCF contains comprehensive and detailed information about finances and demographic characteristics of a representative sample of U. S families. In the original data set, 2,780 families were from a standard multi-stage area-probability sample and 1,519 higher income families from the tax record list (Kennickell, Starr-McCluer, & Sundén, 1997). The definition of "family" used in this study followed the one used in the 1997 National Family Business Study (Winter, Fitzgerald, Heck, Haynes, & Danes, 1998). Thus, only married and cohabiting respondents were included in this study, which resulted in 2,894 family heads. Among them, 996 either owned or shared ownership in any privately held business and were taking an active role in the management of that business. The remaining 1,898 family heads were included for the comparison purpose.

Variables

The two dependent variables examined were the risk tolerance attitude and behavior of family business owners. The risk tolerance attitude was measured by a categorical variable with four levels. In the 1995 SCF, respondents were asked the following question: "Which of the statements on this page comes closest to the amount of financial risk that you and your (spouse/partner) are willing to take when you save or make investment? (1) Take *substantial* financial risks expecting to earn substantial returns; (2) Take *above average* financial risks expecting to earn above average returns; (3) Take *average* financial risks expecting to earn average returns; (4) *Not willing* to take any financial risks." Previous studies treated this variable in various ways. Sung and Hanna (1996) used two levels by combining level (1) to (3), Grable and Lytton (1998) used three levels by combining level (1) and (2), while Schooley and Worden (1996) used all four levels of the variables in their analyses. For comparison, this study used all three alternative definitions in the analyses.

The risk tolerance behavior in this study was measured by the share of risky assets in total assets. The total assets included dollar amount of all financial and property assets. Following Jianakoplos and Bernasek (1997), the

risky assets included dollar balances in risky financial assets (i.e., bonds, stocks, mutual funds in the private savings, IRA or Keogh plans, and defined contribution pension plans), real estate investments excluding primary residence, business interests, and other non-financial assets excluding vehicles. Non-risky assets included non-risky financial assets (savings and checking accounts, certificates of deposits, IRAs or Keogh plans in bank accounts, savings bonds, cash value life insurance), primary residence, and vehicles.

Independent variables were grouped into family and business characteristics. Family characteristics included both household characteristics and family business owner's characteristics. Household characteristic variables were home ownership status, household size, family income, and net worth. Family business owner's characteristics included age, education, and race. Previous studies used gender as one of the independent variables but this study did not use it because of the data limitation. The majority of the sample were male, accounted for 99% for each of both business owner and non-owner groups. This skewed distribution of gender is mainly because of the data structure of the SCF. As indicated in the code book of the 1995 Survey of Consumer Finance, "head" was coded as male in mixed-sex couple or the older individual in a same-sex couple (Federal Reserve Board, 1997).

Business characteristics included the number of employees, number of years in business, gross sales, number of businesses owned, having started the business, and sole proprietorship status. Table 1 presents descriptive statistics of all variables used in this study. Both bivariate and multivariate analyses were conducted to answer the research questions (details of these analyses are presented in the next section). The significance level of 5% was used to report findings. The weight variable provided by the Federal Reserve Board was used in all analyses to make the findings generalizable to the U. S. population.

Findings and Discussion

Descriptive Statistics

As shown in Table 1,[5] on average, business owners was 47 years old and had 14 years of education. Most business owners were white (90%) and home-owners (87%). They had a median annual family income of $54,000 and a median value of $206,309 in net worth. A comparison between family business owners and non-owners showed that family business owners were slightly younger and better educated than non-owners. Family business owners also had much higher levels of income and net worth than non-owners. More family business owners owned their home than non-owners.

The family businesses in this study had an average of 15 employees. These businesses were in operation for an average of 11 years, with a median gross sale of $30,000. Slightly over one-fifth of the respondents owned more than one business, 71% started their own businesses, and 57% were sole proprietors.

Risk Tolerance: Comparing Family Business Owners and None-owners

Chi-square tests were conducted to compare the risk tolerance attitudes and behavior. As shown in Table 2 panel 1, [5] family business owners tended to have higher risk tolerance levels than non-owners. Twenty-seven percent of family business owners, compared with 43% of non-owners, were not willing to take any risks. In addition, higher proportions of family business owners were willing to take average risks or above average risks than non-owners (48% vs. 40%, 22% vs. 14%, respectively). However, percentages of taking substantial risks of the two groups were the same.

The second panel of Table 2 presents findings of risk taking behavior. Only two percent of family business owners had no risky assets while the percentage is much higher for non-owners (34%). Forty-five percent of family business owners had a relatively risky portfolio (share of risky assets was 51% or higher) and only 14% of non-owners had this type of risky portfolio.

Since the results of Chi-square tests only revealed the association between two variables, a multilevel logistic analysis was conducted to examine how business ownership is associated with risk tolerance level and behavior. Following demographic characteristics were used as control variables, age, education, race, household size, home ownership, family income, and net worth. The results indicated that family business owners were more likely to take risks than non-owners, even after controlling for demographic variables (Table 3 estimate 1).[5]

We also conducted a tobit regression analysis when the risky asset share variable was used as dependent variable and the same set of demographic variables used in the logistic model were controlled. Tobit model was used since 18% of the sample reported zero values for the risk taking behavior variable and tobit model is more appropriate than the linear regression model to treat this censored sample. The evidence suggests that family

business owners tend to tolerate higher levels of risk and they actually take greater risks in establishing their asset portfolios, compared to those who do not own family businesses (Table 3 estimate 2).

Risk Tolerance Attitudes of Family Business Owners

We used three alternative definitions of risk tolerance attitudes as dependent variables and multilevel logistic models to examine possible related factors (Table 4).[5] Regarding three alternative risk attitude variables, the results were very similar. Since these results were similar, we report only the results when the four level risk attitude variable (Risk4) was used as the dependent variable. As our hypotheses predicted, several family characteristics showed effects on the risk taking attitudes, such as education, race, and net worth. Age showed a negative effect on the risk tolerance attitudes, which is consistent with previous studies. The age squared term was used in the preliminary analyses. Since the effect of age squared term was insignificant, we dropped it in the final analyses. Household size and income did not show effects, which is inconsistent with previous studies. In terms of business characteristics, only the number of employees in the business had a positive effect on the risk taking attitude.

Risk Tolerance Behavior of Family Business Owners

We also conducted multiple regression analyses to examine factors associated with the risk taking behavior measured by the ratio of risky assets to total assets (Table 5 estimate (1)).[5] Compared to other races, white business owners were likely to have larger shares of risky assets in their portfolios. Home ownership had a negative effect but net worth had a positive effect on the share of risky assets, which were consistent with previous study. Unlike risk taking attitudes, age showed a positive effect on risk taking behavior, older business owners had larger shares of risky assets in their asset portfolios. Education, household size, and income did not show effects on the risk taking behavior. All business characteristics, except for the number of businesses owned, showed effects on risk taking behavior. As predicted, years owning the business, gross sales, and number of employees had positive effects on the risk taking behavior. However, contrary to the prediction, having started a business and sole proprietorship had negative effects on the risk taking behavior. One possible explanation is that business owners who started their businesses or had a sole proprietorship, compared to other situations or types of business, may have a lower level of financial resources that resulted in smaller shares of risky assets in their asset portfolios. In this case, the financial factors may outweigh the psychological factors.

Consistency Between Risk Tolerance Attitudes and Behavior

Table 6[5] shows the relationship between family business owners' willingness to take risks and their actual risk tolerance behavior. The findings indicated some consistence between the risk tolerance attitude and behavior. Generally, the share of risky assets held by family business owners increased as the level of risk tolerance increased. For example, 36% of business owners willing to take substantial risks actually had the most risky asset portfolio (76-100% are in risky assets). This is compared to only 16-24% of owners who were willing to take lower level of risks and had the same highest risky portfolio. This pattern was also clearly shown in the second highest risky portfolio (51-75% were in risky assets). When the attitude toward risk tolerance and other family and business characteristics variables were regressed on the variable of risk tolerance behavior (share of risky assets), business owners who were willing to take substantial risks had a larger share of risky assets that those who were willing to take no risks (Table 5 estimate (2)). However, no difference was found between two groups of family business owners, those who were willing to take above average risks or average risks and those were willing to take no risks, in the multiple regression analyses.

Conclusion and Implications

This study has examined the risk tolerance of family business owners using data from the 1995 Survey of Consumer Finances. The following are major findings and implications.

First, family business owners are more willing to take financial risks and actually take higher risks reflected in their asset portfolios than non-owners. Thus, financial service professionals working with business owning families should understand that this special type of client would be more risk tolerant than other types of clients and provide appropriate guidance to meet their needs and achieve financial goals based on their financial ability. Some relatively risky financial instruments may appear to be moderate financial risks to family business owners who assume high financial risks with the capital invested in the business since small businesses typically have high risk of failure. Small family business owners may be willing to invest in riskier ventures than others, hence they would

likely prefer high growth stocks to certificates of deposit. On the other hand, small family business owners preferring several risky ventures in a portfolio may need other lower risk investments to reduce their overall risk.

Second, family and business characteristics differentiate risk tolerance attitudes and behavior among family business owners. Specifically, variables such as age, education, race, net worth, and number of employees have affected family business owners' risk tolerance attitudes. In addition, age, race, home ownership, net worth, years owning the business, gross sale, number of employees, having started the business, and sole proprietorship have had effects on the risk tolerance behavior. When financial planners work with family business owners, these factors should be taken into account. Because of the unique status of family business owners, financial service professionals should consider both family and business characteristics in making psychologically comfortable and financially sound plans for family business owners.

Third, there is some mixed evidence that risk tolerance attitudes and behavior are consistent among family business owners. Professionals working with business owning families should be cautious and careful to understand the risk tolerance level claimed by clients who may not mean what they say. Another reason for caution is that clients who have psychological limitations may misunderstand real risks and therefore may misstate, usually overstate, their level of risk tolerance (Evensky, 1998).

In addition, these findings have implications for family business owners and educators. This study is the first that has examined risk tolerance among family business owners and compared family business owners and non-owners in terms of risk tolerance. The information generated from the study provides baseline information for family business owners. The findings of this study will help these family business owners better understand themselves by comparing their own risk tolerance attitude and behavior with other family business owners. This knowledge will be helpful for them to make investment and business decisions more effectively. Information generated from this study can also be easily incorporated into instructions of family business related courses and help students who are interested in family businesses and related areas to gain better understanding of risk taking attitude and behavior of family business owners. Finally, the findings of this study have laid a foundation for future research to further understand the decision making behavior of business owning families.

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Endnotes

[1] Associate Professor, Department of Human Development and Family Studies,

[2] Associate Professor, Department of Consumer Studies,

[3] Associate Professor, Department of Consumer Sciences and Retailing,

[4] Assistant Professor, Department of Health and Human Development

[5] Because of the page limit, all tables are not presented but they are available from the authors upon requests.