Financial Planners, Risk Tolerance and Portfolio Choice: Evidence of Moderating Effects from the Survey of Consumer Finances

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OBJECTIVE

The willingness to take risk plays an important role in shaping investment behavior. Risk-averse investors prefer less risky portfolios with lower average payout, while risk-tolerant investors prefer more aggressive portfolios both in terms of risk and expected return. However, to achieve the financial goals within the desired timeline, even the risk-averse investors might need to accept greater risk, and investors who obsessively invest in risky assets might benefit from rebalancing their portfolios toward safer allocations. The responsibility of financial planner is to design an investment strategy for their clients that balances the clients' goals against their true appetite for risk. Therefore, the effect of using a financial planner on investment portfolio may vary according to the clients' risk tolerance. The objective of this study was to gain a better understanding of the effect of using the services of a financial planner on investment decisions, separately for groups of investors defined by their risk tolerance level.

SIGNIFICANCE

Financial planners constitute an important and frequently used resource in making investment decisions. According to the 2016 wave of the Survey of Consumer Finances, 34% of American households relied on financial planners in making investment and saving decisions. The role of financial planners in assisting clients with investment decisions has grown considerably in recent past, which has drawn a considerable amount of scholars' attention. For example, Gerhardt and Hackethal (2009) examined the effect of financial advice on household portfolios using data from Germany and found that investors who used professional advice tended to trade less frequently and be less involved in speculative activities. Winchester, Huston and Finke (2011) also found that investors who used a financial planner behaved less impulsively and were more likely to achieve their financial goals compared with those who did not use a financial planner.

Stock market participation is a financial decision that entails risk (Heo, Grable, and Rabbani, 2018; Sung and Hannah, 1996;). Using data from Canada, Foerster, Linnainmaa, Melzer, and Previtero (2014) found that financial advisers tended to encourage their clients to take more risks. However, the portfolios recommended by the advisers were similar regardless of the clients' risk tolerance and life cycles. Hanna and Lindamood (2010) found that the value of advice varied with the client's risk tolerance and the expected return.

The literature on the interaction effects between risk tolerance and the use of financial planners on portfolio choices is scarce. To fill this gap, two hypotheses were developed and tested in this study:

> H1: Investors with low tolerance of financial risk who work with financial planners will invest more in stocks than those who do not work with financial planners.
>
> H2: Highly risk-tolerant investors who work with financial planners will invest less in stocks than those who do not work with financial planners.

METHODS

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This study used the 2016 wave of the Survey of Consumer Finances (SCF) collected by the Federal Reserve Board (N=6,248).

The outcome variables

The dependent variables were the indicator of stock ownership and a ratio of risky assets to financial assets. Risky assets were measured as the dollar value of holdings of stocks and stock-based mutual funds. Observations with zero or negative total financial assets were excluded reducing the sample size to n=6,166.

The explanatory variables

The subjective reports on willingness to take financial risk were used to categorize respondents into four, roughly equal-size groups: zero, low, medium, and high willingness to accept financial risk.

The SCF asked about the source of advice a respondent's family used when making decisions about savings and investments. An indicator dummy variable was created to measure reliance on advice from a financial planner. Similar indicators were defined for other sources of advice, including friends, media, self, other professionals and other sources.

To examine the effect of using a financial planner for each risk category, eight additional mutually exclusive dummy variables were created to indicate the possible combinations of working with a financial planner (yes/no) by the willingness to take financial risk (zero/low/medium/high).

Based on previous literature regarding household portfolio decisions, the following control variables were included in the analysis: demographics (e.g., age, gender, marital status, education, and number of household members), financial status (e.g., income, financial assets, non-financial assets, debt, and homeownership), past stock market experience (measured as a dummy indicator of experiencing stock gains), financial planning horizon, optimism regarding economic forecast, the use of advisors for making credit and borrowing decisions, and saving motives.

Estimation strategy

The share of risky assets in total financial assets is a continuous variable within 0-1 range. However, most sampled households (over 70%) reported that they did not hold any stocks. Ignoring such a large portion of zero holdings of stocks would have resulted in model misspecification and biased conclusions. It was, therefore, necessary to analyze two distinct aspects of the household investment decisions: (1) whether or not to participate in the stock market, and (2) how much to allocate to stock assets (Poterba & Samwick, 2002; Rosen & Wu, 2004; Shum & Faig, 2006).

Probit models for stock ownership were estimated to predict who held the risky investments. The dependent variable was coded as 1 if total value of stock holdings was positive, and 0 otherwise. Next, Tobit models for the share of stock in financial assets with censoring at zero were estimated in order to investigate the effect of using a financial planner on the degree of riskiness of the household's financial portfolio.

RESULTS

Table 1 summarizes the selected weighted descriptive statistics.

INSERT TABLE 1 HERE

Table 2 shows the marginal effects from probit (stock market participation) and Tobit (share of stocks in portfolio) regressions. The results were generally consistent with those reported in the extant literature. Relative to individuals who reported zero tolerance for financial risk (reference category), acceptance of higher risk was associated with a greater probability of participation in the stock market. The probit analysis also showed that consulting a financial planner for investment and saving decisions increased the

probability of participating in the stock market by nearly 4 percent. Additionally, investors with higher income, financial assets, and educational attainment, and those who had long-term financial planning horizon, were more inclined to participate in the stock market. In contrast, being an African American (compared to being white), residing in a larger household, and having debt, were all negatively associated with the probability of stock market participation.

The Tobit analysis showed that willingness to take higher risk was associated with greater share of stocks in financial asset portfolio. Positive past experience in the stock market was also associated with holding a larger portion of risky assets. Similarly, younger, married, and highly educated investors, as well as those who had higher incomes and financial assets, and those who had longer financial planning horizons, tended to invest more in stocks. However, consulting a financial planner did not have a significant effect on the stock holding ratio.

INSERT TABLE 2 HERE

The marginal effects presented in Table 3 show that consulting a financial planner is an important aspect of investment decisions. Both probit and Tobit models were re-estimated four times, each time with a different omitted indicator variable from the set of 8 dummies indicating the combinations of risk tolerance and financial planner use. For example, to learn about the effect of financial planner use among respondents with low inclination to take risk, those who do not use a planner and report low willingness to take risk served as the reference category and the marginal effect of interest was recovered for those who report low inclination for risk-taking but who do consult a financial planner. This result, as well as the equivalent marginal effects for other levels of risk tolerance, as reported in Table 3.

The results of the probit estimations showed that consulting a financial planner increased the probability of participating in stock markets for certain risk groups. Respondents with low to medium inclination to take risk who worked with a financial planner were about 6-7 percent more likely to participate in the stock market than their counterparts who did not consult a planer. However, using a financial planner did not appear to have a significant effect on the probability of participating in the stock market for investors in zero and high-risk groups.

The results of the Tobit estimations showed that using a financial planner also moderated the association between risk tolerance and the degree of exposure to risky investments. Investors with low to medium risk tolerance who worked with a financial planner held a 1-2 percentage points higher fraction of their financial assets in stocks than those with a similar risk tolerance profile but who did not work with a financial planner. In contrast, the highly risk-tolerant investors working with financial planners held portfolios with an average share of stocks lower by about 1.3 percentage point relative to their counterparts who were also willing to take large risks but made decisions without consulting financial planners. These findings supported the hypotheses.

INSERT TABLE 3 HERE

CONCLUSIONS/RELEVANCE

This study documented a strong moderating relationship between consulting a financial planner, inclination to take financial risks and household investment choices. Consistent with other studies, the effect of willingness to take risk on the ownership of risky assets was found to be positive. Investors with low risk tolerance held a smaller portion of stock in their financial portfolio than investors with high risk tolerance.

Using a financial planner, however, moderated the association between risk tolerance and holding risky assets. On the one hand, individuals with low risk tolerance who consulted a financial planner tended to invest more in stocks than their counterparts who did not rely on professional advice. On the other hand, the highly risk-tolerant investors who used financial planning advice tended to invest less in stocks than their counterparts who made decisions independently of professional advice. The results of this study could imply that financial planners help risk-averse clients reduce the aversion of participating in the stock market.

This could lead to improved average financial returns of risk-averse individuals. In contrast, financial planners appear to reduce exposure to risk among investors who are very risk-tolerant. Hence, it is possible that financial planning advice mitigates the excessive risk of experiencing financial losses for those who are too focused on risky assets in their investment plan.

Some limitations ought to be acknowledged. First, the variable used to measure the willingness to take risk was subjective. The self-reflective question on willingness to take risks in the dataset made it difficult to determine how a respondent measures his own willingness to take risk. Second, this study used the 2016 wave of the SCF only. Using one wave of a cross-sectional dataset provides a snapshot at a specific time, and does not account for the effect of time and economic climate. The limitations should be addressed in a future study.

REFERENCES

Board of Governors of the Federal Reserve System. (2016). Codebook for 2016 Survey of Consumer Finances. Washington, D.C., https://www.federalreserve.gov/econres/scfindex.htm

Finke, M. S., Huston, S. J., & Winchester, D. D. (2011). Financial advice: Who pays. Journal of *Financial Counseling and Planning, 22*(1), 18.

Foerster, S., Linnainmaa, J. T., Melzer, B. T., & Previtero, A. (2017). Retail financial advice: does one size fit all?. *The Journal of Finance, 72*(4), 1441-1482.

Gerhardt, R., & Hackethal, A. (2009). The influence of financial advisors on household portfolios: A study on private investors switching to financial advice. Available at SSRN 1343607.

Hanna, S. D., & Lindamood, S. (2010). Quantifying the economic benefits of personal financial planning. *Financial Services Review, 19*(2), 111-127.

Heo, W., Grable, J. E., & Rabbani, A. G. (2018). A test of the relevant association between utility theory and subjective risk tolerance: Introducing the Profit-to-Willingness ratio. *Journal of Behavioral and Experimental Finance*, *19*, 84-88.

Poterba, J., and A. Samwick, 2002, Taxation and Household Portfolio Composition: US Evidence From the 1980s and 1990s, *Journal of Public Economics, 87*, 5- 38.

Rosen, H. S., & Wu, S. (2004). Portfolio choice and health status. Journal of Financial Economics, 72(3), 457-484.Shum, P., & Faig, M. (2006). What explains household stock holdings?. *Journal of Banking & Finance, 30*(9), 2579-2597.

Sung, J., & Hanna, S. D. (1996). Factors related to risk tolerance. *Financial counseling and planning*, *7*.

Table 1. *Desscriptive Statstics*

Variable	Mean	Std Dev	Variable	Mean	Std Dev
riskyassets	0.1051	0.2230	**Past experience**		
Financial risk			*stockgain*	0.1634	0.3698
LowFrisk	0.2993	0.4580	**Assets profile**		
MedFrisk	0.2955	0.4563	*ArcsinFin*	11.3102	3.7437
HighFrisk	0.2868	0.4523	*ArcsinNonFin*	12.0547	4.2612
Investment advisors			*ArcsinDebt*	8.6461	5.3607
Planner	0.3407	0.4740	*homeowner*	0.6018	0.4896
Media	0.5343	0.4989	**Credit advisors**		
Friend	0.4131	0.4924	*CreditPlanner*	0.2382	0.4260
Self	0.0791	0.2699	*CreditMedia*	0.6665	0.4715
FinPro	0.4877	0.4999	*CreditFriend*	0.4585	0.4983
Others	0.0832	0.2762	*CreditFinPro*	0.5120	0.4999
Demographic			*CreditSelf*	0.0552	0.2284
Female	0.2332	0.4229	*creditothers*	0.1084	0.3109
MARRIED	0.6248	0.4842	**Planning Horizon**		
ArcsinIncome	12.0239	1.9436	*planningyear*	0.1290	0.3352
SomeCollege	0.2462	0.4308	*planningfewyears*	0.2642	0.4410
College	0.4313	0.4953	*planning5moreyears*	0.2548	0.4358
AGE	52.7036	16.2158	*planning10moreyear*	0.1657	0.3718
AgeSquare	3040.5800	1746.3100	**Economy forecasted**		
hhsize	2.5976	1.4190	*LTforecastBetter*	0.3836	0.4863
Black	0.1335	0.3401	*LTforecastWorse*	0.2076	0.4056
OtherRace	0.0514	0.2208	*STforecastBetter*	0.2188	0.4135
Hispanic	0.0980	0.2973	*STforecastWorse*	0.1565	0.3634
Past experience			**Saving motives**		
stockgain	0.1634	0.3698	*Save_Edu*	0.1580	0.3647
Assets profile			*Save_Estate*	0.1319	0.3384
ArcsinFin	11.3102	3.7437	*Save_Home*	0.1128	0.3164
ArcsinNonFin	12.0547	4.2612	*Save_emergency*	0.4691	0.4991
ArcsinDebt	8.6461	5.3607	*Save_retire*	0.4352	0.4958
homeowner	0.6018	0.4896			

Table 2. *Probit and Tobit model without interaction effect*

	Model I (Probit)		Model II (Tobit)	
	DV: Stock market participation		DV: Risky asset holding ratio	
	Marg. Effect	P-Value	Marg. Effect	P-value
LowFrisk	0.0383	0.0638	0.0189	0.0485
MedFrisk	0.0766	0.0003	0.0275	0.0043
HighFrisk	0.1356	<.0001	0.0373	0.0001
Planner	0.0388	0.0024	0.0039	0.3941
Media	0.0284	0.0154	0.0017	0.6878
Friend	0.0019	0.8724	-0.0035	0.4192
Self	0.0206	0.3320	-0.0021	0.7691
FinPro	0.0151	0.1840	-0.0022	0.5987
Others	-0.0154	0.5156	-0.0247	0.0167
stockgain	-	-	0.1042	<.0001
Female	-0.0084	0.6177	-0.0031	0.6426
MARRIED	0.0097	0.5456	-0.0136	0.0249
ArcsinIncome	0.0269	<.0001	-0.0026	0.0128
SomeCollege	0.0245	0.0909	0.0092	0.1213
College	0.1164	<.0001	0.0152	0.0049
AGE	-0.0015	0.4374	-0.0026	0.0049
AgeSquare	0.0000	0.1829	0.0000	0.0030
hhsize	-0.0099	0.0303	-0.0023	0.1894
ArcsinFin	0.0162	<.0001	0.0239	<.0001
ArcsinNonFin	0.0037	0.0721	0.0004	0.6918
ArcsinDebt	-0.0064	<.0001	-0.0001	0.7028
homeowner	0.0172	0.2019	-0.0039	0.4468
planningyear	0.0024	0.8994	0.0025	0.7622
planningfewyears	0.0266	0.0982	0.0100	0.1340
planning5moreyears	0.0322	0.0494	0.0120	0.0711
planning10moreyear	0.0872	<.0001	0.0164	0.0205
Black	-0.0657	0.0002	-0.0210	0.0064
OtherRace	0.0030	0.8890	0.0080	0.2999
Hispanic	-0.0122	0.5303	-0.0167	0.0644
CreditPlanner	0.0618	<.0001	0.0161	0.0007
CreditMedia	-0.0241	0.0678	-0.0020	0.6777
CreditFriend	-0.0313	0.0088	-0.0005	0.9152
CreditFinPro	-0.0256	0.0331	-0.0065	0.1405
CreditSelf	0.0111	0.6387	0.0135	0.0895
creditothers	0.0275	0.1827	0.0025	0.7383
LtforecastBetter	0.0102	0.3788	0.0072	0.0869
LtforecastWorse	-0.0056	0.6860	0.0062	0.2225
StforecastBetter	-0.0007	0.9554	0.0024	0.6066
StforecastWorse	0.0225	0.1168	0.0028	0.5951
Save_Edu	0.0249	0.0882	0.0077	0.1491
Save_Estate	0.0259	0.0884	0.0051	0.3492
Save_Home	-0.0059	0.7313	-0.0067	0.3438
Save_emergency	-0.0035	0.7418	0.0071	0.0694
Save_retire	0.0233	0.0432	0.0074	0.0788
Save_other	0.0029	0.7924	0.0065	0.1103

Table 3. *Marginal effect of using a planner for each risk tolerance group*
Reference category: non-use of the services of a financial planner counterparts

	Probit models				Tobit models			
	DV: 1 if Risky asset>0 and 0 otherwise				DV: Risky asset holding ratio			
	Model I	Model II	Model III	Model IV	Model I	Model II	Model III	Model IV
PlanZero	-0.0118				0.0284			
PlanLow		0.0674 ***				0.0151 **		
PlanMed			0.0612 **				0.0123 *	
PlanHi				-0.0009				-0.0127 **

All models also include the covariates in table 2.
*P<.1
**P<.05
***P<.001