

Financial Advice and Portfolio Diversification

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Abstract

This paper examines whether households diversify their investment portfolios and whether portfolio diversification could be affected by where investors seek advice. We found that respondents find advice from banks, insurance companies, and brokerage houses less helpful compared to reading investment research and financial periodicals when making their portfolio decisions. Comparing among the advice from all types of financial institutions or financial professionals, it is found that advice from brokerage houses is still the most helpful. But when looking at their actual portfolio diversification, those who rely on brokers' advice ended up with a less diversified portfolio. These findings support our hypothesis that investors' portfolio could be negatively influenced because of the services they received from brokerage houses.

Keywords: brokerage houses, diversification, financial advisors, investment advice, portfolios

1. Introduction

This paper examines the normative suggestion, within the investment literature, that households diversify their investment portfolios and whether portfolio diversification could be affected by where investors seek advice. Failure for households to diversify their investment portfolios means they will be subjected to significantly more unsystematic risk for which they are not compensated. In a study of Swedish households, Calvet et. al. (2007) estimated the loss of under-diversified households as being more the 5% of accumulated wealth per year. Five hundred basis points is a substantial drain on a portfolio. Consider a household that invests \$12,000 a year for 30 years that 5% drain equates to about \$840,000 less at retirement.

Recognizing the households that are more likely to avoid investment mistakes, like failing to diversify their portfolio, may allow the creation of public policy or business practices to steer more households in the right direction. Better results from retirement planning can mean fewer households needing to rely on social welfare programs. Fewer households relying on social welfare programs is in the public interest. Investment advisory services, publicly available investment research and investment media can all influence household investor behavior. Knowing which of these sources are associated with the best outcomes for household investors and promoting those sources could improve household investor outcomes. In addition, studying investment mistakes and the associations households that make those mistakes have can help industry demonstrate value and best serve their clients.

2. Literature Review

Markowitz (1952) suggests that investing in large number of varying stocks reduces portfolio risk while maintaining investment return, which is referred to as the benefit of portfolio diversification. However, literature finds that many investors don't hold diversified portfolio as proposed by the theory. For example, Blume, and Friend (1975) find that about half the households in their study hold a majority of their investments in only one stock.

The first study to point out the discrepancy between normative suggestions regarding diversification and investor behavior was Blume, and Friend (1975) which finds that the roughly half the households in their data set hold at least 63 percent of their stock portfolio in one holding. Kramer (2012) using a large data set of Dutch investors finds that advised investors are better diversified. Studying a data set from a large German retail bank Bluethgen et al. (2008) also find a positive relationship between advised investors and diversification. Bhattacharya et al. (2012) using data from a German brokerage do not find evidence that advice improves measures of investor diversification. Kawano (2010)

using data from the Survey of Consumer Finance (SCF) reports a positive relationship between the number of stocks owned and receiving investment advice from a broker but does not find evidence that seeking investment advice from a financial planner is significant. Kawano did not however try to test based on a minimum level of diversification. Curcuru et al. (2004) establish a test for minimum standard of diversification using the SCF but does not look at the relationship between financial advice and diversification. Based on the conflicting results the subject of financial advice and investor portfolio diversification warrants further attention. There is also more need of research utilizing a nationally representative sample of U.S. households.

Empirical evidence suggests that households fail to incorporate MPT as there is substantial documentation of underdiversification among households in the literature (Kelly 1995, Curcuru et al. 2004, Home et al. 1975, Polkovnichenko 2005, Campbell 2006). Campbell (2006) highlights this and other disconnects from empirical and normative research as common investment mistakes made by households.

Interestingly there is evidence that the most risk averse households have some of the greatest levels of underdiversification. Lai and Xiao (2010) explain that risk averse households are more likely to have high concentrations of employer stock in their portfolio. Many times employer stock may be the only exposure to equity holdings these households have. This type of underdiversification is particularly bad because their income is then correlated with their equity holdings such that if the company they work for goes out of business they can lose both thereby putting them at substantial risk. They attribute this to mere-exposure effect, the phenomenon whereby people tend to have preferences for whatever they have more familiarity with or repeated exposure. This is similar in nature to the home bias effect which is the tendency for investors to invest in stocks from the country of origin as evidenced by French and Poterba (1991). Also similar is the company stock effect proposed by Benartzi and Thaler (2001) which finds consumers underestimate the risk of their employer's stock. This is just one aspect of undiversification but it highlights the serious nature of the problem. There is plenty of evidence regarding the divergence of household behavior and prescriptive economic suggestions. For example Haliassos and Bertaut (1995) find a lack of equity participation by U.S. households despite the fact that expected utility models predict that most rational households should have at least some exposure to equities. As already mentioned we see pervasive underdiversification among households despite normative suggestions to the contrary. Campbell (2006) attributes the disparity between empirical evidence and normative prescriptions to investment mistakes made by households. Campbell suggests financial sophistication is a chief component of these mistakes as age, income, and education are often found to be statistically significant factors in many of the investment mistakes studied in the literature. More direct measures of financial sophistication exist in studies such as Graham, Harvey, and Huang (2005) who find that investors who self-report higher levels of financial sophistication have more internationally diversified holdings.

There are substantial costs in acquiring the knowledge to make optimal investment decisions. This can be done through formal education or self-study including investment periodicals and published investment research. However, without a sufficient background in investments determining credible sources of information may be difficult. Instead of acquiring the necessary knowledge oneself in order to make better investment decisions one can rely on professionals. Stigler (1961) holds that information collected by a central intermediary, like a financial services professional, can be more efficient as the cost of acquiring that information can be shared among any number of households. Households that lacking investment savvy may turn to financial advice to help avoid costly investment mistakes.

Theoretically households maybe able to achieve better investment results and avoid costly mistakes like not diversifying their portfolio by seeking professional investment advice at a cost that is lower than they may be able to achieve on their own. However, the downside to professional advice are agency costs as pointed out by Eisenhardt (1989). Agency costs exist because the interests of financial service professionals and their clients are not perfectly aligned. When financial service professionals have incentives for behavior that are not in their clients interest the resultant agency costs can outweigh the benefits of scale economies described by Stigler (1961).

There is evidence that financial advice affects investor behavior. Studies confirm the positive relationship between financial advice and stock market participation (Jansen et al. 2008, Bluethgen et al. 2008, Guiso and Jappelli 2005). If we consider lack of stock market participation as an investment mistake as suggested by Campbell (2006) then perhaps households who seek professional financial advice will be associated with fewer investment problems overall, including lack of diversification. In fairness though, many financial advisors have an economic incentive to encourage equity market participation. The same cannot be said for encouraging households to diversify their positions. Although financial advisors can be rewarded with business retention and referrals for giving good advice,

it is likely difficult for households to evaluate what good advice is without the necessary investment in specific

knowledge related to personal finance. Additionally, there are examples where financial advice has been associated with poor financial choices (Mullainathan et al. 2012, Chalmers and Reteur 2012) or where advice was not found to be significant in influencing investor behavior (Bhattacharya et al. 2011).

3. Research Hypothesis

Traditional finance theory assumes that investors are fully rational, have access to full information and the market and there is no market friction. Behavioral finance theory challenges the assumptions and suggests that investors usually display bounded rationality. Due to limited access to information and limited cognitive ability, their decision could deviate from being optimal, which could explain the under-diversification in their portfolio. Human capital theory suggests that, many investors will be better off using financial service professional to make an optimal decision. The agency theory suggests that there might exist a conflict of interest between principal (individual investors) and their agents (the professionals they hire). So, investors' portfolio decision can be negatively influenced by the professionals they work with as found in several studies (Mullainathan et al. 2012, Chalmers and Reteur 2012), which could also explain the under-diversification in investors' portfolio. Commissions can drive agency costs and therefore financial service professionals who have a commission based compensation structure may have worse outcomes than financial professionals who are compensated solely for their advice, like an accountant. We therefore test the following hypothesis:

H1: *Investors who work with broker house for their financial advice are less likely to have a diversified portfolio.*

4. Methodology and Data

This study uses a unique dataset collected from individual investors working with a stock brokerage firm. Investors were asked to complete a paper questionnaire voluntarily and autonomously after a client meeting. The survey is particularly useful to our research question because it includes information about family investment patterns, investment approaches, beliefs, and investor demographics.

A measure of household portfolio diversification is developed based on investor self-reported mutual fund and stock ownership. The survey asks the number of mutual funds and stock holdings. A household is defined to have a diversified portfolio if it invests in more than 3 mutual funds or invests in more than 15 stock companies. Table 1 presents the summary statistics of the diversification measure and key demographic control variables. About 69% of respondents in this survey had a diversified investment portfolio. About 91% of the respondents were male, consistent with the evidence that males are the primary financial decision makers in the family. More than half of respondents were aged 65 years old or above, suggesting an even more important reason for a diversified portfolio. About 38% of respondents were aged between 45 to 64, a group that is in need for an appropriate investment portfolio for wealth accumulation. About 94% of respondents were White. 83% of respondents were married which is consistent with their age distribution. About 73% of respondents had a college degree or higher, suggesting that this is a more educated group related to the general public. About 41% of respondents had household income between \$50,000 to \$100,000 and another 25% of respondent had household income over \$100,000, consistent with the prior evidence that this is a group that needs to make investment decisions. About 48% of respondents also reported to rely on a financial professional for financial advice.

Table 1. Summary Statistics of Key Variables

Variable Name	Frequency (N=128)
Have a Diversified Portfolio	68.75%
Not Have a Diversified Portfolio	31.25%
Gender	
Male	91.20%
Female	8.80%
Age	
26 to 44	10.16%
45 to 64	38.28%
65 and Above	51.56%
White	93.75%
Non-white	6.25%
Married	82.79%
Unmarried	17.21%
Highest Education	
High School or Lower	26.56%
College Degree	40.63%
Master Above and Professional Degree	32.81%
Household Income	
Less than \$50,000	34.43%
\$50,000- \$100,000	40.98%
Above \$100,000	24.59%
Rely on Financial Professional	48.44%
Not Rely on Financial Professional	51.56%

5. Research Findings

Table 2 presents the summary statistics of how helpful respondents find receiving financial advice from various resources. Looking at the full sample, respondents tended to find financial advice from reading investment research and periodicals more helpful than advice from any type of financial professionals. On a scale of one to four with four as the more useful, both reading investment research and reading periodicals had an average helpfulness of 2.90 and

2.66 respectively. Comparing helpfulness of advice from different financial professionals, it is found that financial advice from brokerage houses was more helpful than financial advice from a bank, insurance company or other professionals. A sub-group analysis was conducted to investigate whether respondents with a diversified portfolio had a different perception of helpfulness compared to their counterparts. Consistent with prior findings, it is observed that both groups found investment research and periodicals more helpful than advices from banks, insurance companies, brokerage houses or other professionals. Advice from brokerage houses was still viewed more helpful than advice from bank, insurance company or other financial professionals. Those with a diversified investment portfolio found advice from investment research and periodicals much more helpful, and advice from various financial professionals much less helpful. This suggests that respondents with a diversified investment portfolio were more likely to be more financial sophisticated and make financial decision on their own.

Table 2. Helpfulness of Financial Advice from Different Sources

Helpfulness of Financial Advice from	N	Full Sample	Diversified Portfolio	
			No	Yes
Banks	110	1.22	1.53	1.09
Insurance Companies	108	1.20	1.26	1.18
Brokerage Houses	116	2.02	2.06	2.00
Other Professionals	106	1.91	1.94	1.89
Read Investment Research	118	2.90	2.58	3.04
Read Investment Periodicals	117	2.66	2.38	2.76

We then investigate how the advice from brokerage houses affects respondents' diversification decision. Table 3 presents the logistic regression results estimated through a set of hierarchical model. The dependent variable is the diversification measure created in this study. Besides key demographic control variables, the hierarchical model includes one after another, whether respondents rely on financial professional for an advice, whether respondents found advice from brokerage houses helpful and the interaction of the prior two variables. The full model investigates whether respondents have a diversified portfolio if they rely on a financial professional and find advice from brokerage house more helpful. Odds ratios were reported in table 3. A odds ratio larger than 1 suggests that an event is more likely to happen, while a odds ratio smaller than 1 suggests that an event is less likely to happen. Look at the model 3, it is observed that the odds ratio for the interaction term of whether respondents rely on financial professionals for advice and whether respondents found advice from brokerage houses helpful is 0.041 and statistically significant at the 1% level. This suggests that those who rely on financial professionals and find advice from brokerage houses more helpful were significantly less likely to have a diversified portfolio. This provides supporting evidence to our hypothesis that respondents might experience negative financial consequence when working with a brokerage house while they also viewed their advice more helpful than advice from other financial professionals. The actual quality of advice was not consistent with how it was perceived. What is more, it is observed that education and income had a positive relation with whether respondents have a diversified portfolio. Those who had no college degree were significantly less like to have a diversified portfolio than those with a college degree. Those with less than \$50,000 household income were significantly less likely to have a diversified portfolio than those with a household income over \$100,000.

Table 3. The Impact of Financial Advice on Household Portfolio Diversification, Odds Ratio Estimated through Logistic Regression

<i>Variables</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>
Male	2.843	2.562	4.475
Age <45 vs Age >65	1.176	1.233	1.013
Age 45 to 65 vs Age >65	1.157	1.192	1.344
White	1.633	1.256	2.336
Married	0.634	0.598	0.49
Less than College	0.433	0.403*	0.468*
College Degree	0.898	0.902	1.256
Income below \$50,000	0.344	0.304*	0.298*
Income \$50,000 to \$100,000	0.534	0.533	0.568
Rely on Financial Professionals	0.646		1.249
Find Brokerage House Helpful		0.691	6.244
Interaction of above Two			0.041**

*Statistically significant at the 10% level of Significance

** Statistically significant at the 1% level of significance

6. Discussion

This study shows that respondents find advice from banks, insurance companies, and brokerage houses less helpful compared to reading investment research and financial periodicals when making their portfolio decisions. Comparing among the advice from just the financial institutions and financial professionals, survey respondents indicated that advice from brokerage houses was more helpful than services from banks, insurance companies and other financial professionals. But when looking at their actual portfolio diversification, those who rely on brokers advice ended up with a less diversified portfolio. These findings support our hypothesis that investors' portfolio could be negatively influenced because of the services they received from brokerage houses.

There exists a gap between the perceived quality of financial advice from a stock broker and their actual quality. Due to the compensation structure, the conflict of interests are more likely to occur when a stock broker is involved. The findings from this study support this argument. Public policy needs to address the issue and protect these investors. From this extent, the fiduciary rule proposed by the department of labor would certainly benefit the investors by requiring their advisor to work on a capacity of a fiduciary when advising retirement accounts and ensuring that that commissions among various investment products used for retirement are the same. The Security Exchange Commission is also in the process of drafting their own fiduciary rule.

Financial advisory services need to be able to demonstrate their value to clients. The various investment mistakes made by households as pointed out by Campbell (2006) can all be pointed to as reasons why households should consider professional financial advice. Additionally, financial service firms need to know how to motivate their clients to follow their advice. Providing measurable results can allow these firms to demonstrate the financial harm that can be afflicted on households not investing using optimal strategies.

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