ISSN: 2688-9323

The Effect of Financial Fraud on Household Asset Allocation: Evidence from China

Xinxin Meng and Xiaobing Huang

School of business, Gannan Normal University, Ganzhou, Jiangxi 341000, China

Abstract

This article investigates the impact of financial fraud on household financial asset allocation by using the data from China Family Finance Survey (CHFS) in 2015. The empirical results show that financial fraud have a significant positive effect for household to hold stocks, funds and some else financial products. We also use tobit model to analyze the impact of financial fraud on the proportion of risky assets held by household, then, we get the empirical results showed that financial fraud also has a significant positive impact on households' proportion of risky assets.

Keywords

Financial fraud; Risky assets; Household financial asset allocation.

1. Introduction

In recent years, with the rapid development of China's financial market, the types of financial products are gradually enriched, people have a stronger desire to preserve and increase the value of surplus assets, and families' tendency to participate in the financial market is gradually increasing. With the development of the Internet and the online finance, online finance is more and more popular because of its advantages of convenience, efficiency and low threshold. With the development of online finance, new consumption habits and financial management concepts are gradually formed. Compared with traditional finance, today's young people are more inclined to use online finance to solve their various needs.

Based on this background, this paper use CHFS data to conduct an empirical study on the impact of financial fraud on household financial asset allocation. The data of Chinese household finance survey includes the questionnaire survey on fraud to the visitors, which provides great convenience for us to study the impact of financial fraud on household financial asset allocation. This research not only fill the gap of previous study, but also can provides guidance for household to allocate financial assets more reasonably and encourage households to participate in venture market investment.

2. Literature Review

Modigliani (1954) studied the impact of life cycle effect on household financial asset allocation, and concluded that age would have a significant impact on household investment decisions. Specifically, the impact of age on the proportion of high-risk and low-risk assets held by households presented an inverted "U" shape (Bertaut and Haliassos, 1995; Heatonu, 1997), consistent with the results of Guiso et al. (2001). Income also have a significant positive impact on household holdings of risky assets (Vissing-Jorgensen, 2002). However, the impact of income risk on it is significantly negative (Guiso et al., 1996; Heaton and Lucas, 1997; Vissing-Jorgensen, 2002; Angerer and Lam, 2009). Housing purchase decisions have a significant impact on households' participation in the venture capital market (Flavin and Yamashita, 2002). This is consistent with the research results of Barbe and Odean (2001). When Agnew et al. (2003) studied the influence of marital status on residents' investment

ISSN: 2688-9323

decisions, they found that unmarried residents' investment decisions were more inclined to hold risk-free assets, and their investment decisions were more conservative, while married residents' investment decisions were more likely to favor risky assets.

3. Data, Specification and Variables

3.1. Data

This paper uses the data of 2015 China Household Finance Survey (CHFS) collected by the Survey and Research Center for China Household Finance from 29 provinces in China with nearly 40,000 household samples. The dataset includes rich and detailed information including demographic characteristics, assets and debts, insurance and security, expenditures and incomes. We filter the data according to research needs of this paper, after eliminating missing values and fuzzy values of key variables, we obtain a sample with 23165 households which accounts for 58% of the raw data.

Table 1: Variable definitions

Variables	Variable description
Stockdum	1 for household owned stock; 0 otherwise.
Funddum	1 for household owned fund; 0 otherwise.
Financeproductsdum	1 for households hold other financial products,such as Bank financial products, Yu Ebao; 0 otherwise.
Riskshare	The proportion of risky financial assets in total household financial assets
Finance fraud	1 for people suffer from telephone fraud/acquaintance/face to face fraud (pyramid schemes, improper commodity trading)/SMS fraud/other fraud /QQ/ WeChat/feishin and other network fraud/phishing website fraud in one or more
Fraud_number	Types of fraud experienced,from 1to 6
Lnlost_fraud	Losses due to fraud
Age	The age of householder
Gender	Male = 1; female = 0.
Education	Never attended school = 1; primary school education=2; junior high school education = 3; high school education = 4; technical secondary school / vocational education = 5; junior college / vocational education = 6; bachelor's degree = 7; master's degree = 8; doctoral degree=9.
Hukou	Urban registered residence = 1; Rural registered residence = 0.
Lntotall_income	Total household income

3.2. Specification

In order to study the impact of financial fraud on household financial asset allocation, this article adopts three proxy variables including suffer from financial fraud which is a dummy (Finance fraud), Fraud number (Fraud_number) and lost due to fraud (Lnlost_fraud) to measure financial fraud.

We establish following empirical specifications to exam the nexus between financial fraud and household financial asset allocation. Since the first three dependent variable in this paper is a dummy variable, logit model is employed to estimate the results, and riskshare that is the

ISSN: 2688-9323

proportion of risky financial assets in total household financial assets is a number between 0 and 1, and it will accumulate at 0, so the tobit model is used to carry out regression analysis.

$$P(\text{Risk}asset = 1) = \Phi(\beta_0 + \beta_1 Financialfraud + \beta_i X_i) \quad (1)$$

$$Riskshare^* = \beta_1 X + \beta_2 Z + \mu \quad \text{Risk}share = \max(0, Riskshare^*) \quad (2)$$

Where, the *Riskasset* is the dependent variable capturing the willingness to allocate risky assets in household financial allocation, that is household finance asset allocation. The *Financialfraud* is the independent variable of main interest defining financial fraud including Finance fraud, Fraud_number and Lnlost_fraud. X_i represents the control variables consisting of age, gender, education, the type of Hukou and total income. β_1 is the coefficients of independent variable, which indicates the direction and magnitude of the influence of financial fraud on household financial asset allocation .Φ is the cumulative normal distribution. risk*share** represents the proportion of household risky financial assets.

4. Empirical Results

4.1. The Impact of Financial Fraud on Household Stock Investment

Table 2 shows the estimation results using stock asset as dependent variables. As shown in the Column (1), (3) and (5), the estimated coefficients of all three core explanatory variables are positive and significant at 1% level, which suggests that no matter what measurements are utilized, financial fraud have a positive influence on household equity holdings. This means that household with more fraud experience are more likely to participate in stock activities. Specifically, we can see from Column (2), (4) and (6), one unit increase of financial fraud leads to an increase of the household equity holdings intention by 5.34%, 1.95%, and 0.327%, respectively.

4.2. The Impact of Financial Fraud on Household Fund Investment

Table 3 reports the estimation results of the impact of financial fraud on household invest fund. As shown in Column (1) to (4) of this table, the estimated coefficients of Frauddum and Fraud_number are both positive and significant at 1% levels, In addition, one unit increase of financial fraud will lead to an increase of the household holdings of fund assets intention by 2.64%, 0.830%, respectively, indicating that financial fraud measured by Frauddum and Fraud_number have a positive effect on household fund invest. while another agent variable, Lnlost_fraud, aren't significant, suggesting that it have no significant impact on households' ownership of risky assets.

ISSN: 2688-9323

Table 2: The impact of financial fraud on household stock investment

	(1)	(2)	(3)	(4)	(5)	(6)
Variables	Stockdum	Marginal	Stockdum	Marginal	Stockdum	Marginal
Frauddum	0.571***	0.0534***				
	(0.0550)	(0.00512)				
Fraud_number			0.210***	0.0195***		
			(0.0180)	(0.00166)		
Lnlost_fraud					0.0348**	0.00327**
					(0.0135)	(0.00127)
Age	0.00158	0.000148	0.00373**	0.000347**	0.00224	0.000211
	(0.00150)	(0.00014)	(0.00151)	(0.000140)	(0.00149)	(0.00014)
Gender	0.0121	0.00113	-0.00974	-0.000908	0.0172	0.00162
	(0.0434)	(0.00405)	(0.0435)	(0.00405)	(0.0432)	(0.00406)
Education	0.349***	0.0326***	0.344***	0.0320***	0.360***	0.0339***
	(0.0137)	(0.00122)	(0.0138)	(0.00123)	(0.0136)	(0.00123)
Hukou	-1.936***	-0.181***	-1.932***	-0.180***	-2.032***	-0.191***
	(0.145)	(0.0137)	(0.145)	(0.0137)	(0.145)	(0.0138)
Lntotall_income	0.591***	0.0553***	0.584***	0.0544***	0.598***	0.0562***
	(0.0238)	(0.00215)	(0.0238)	(0.00215)	(0.0237)	(0.00215)
Observations	23,180	23,180	23,180	23,180	23,201	23,201

Note: *** p <0.01, ** p <0.05, * p <0.1. Robust standard deviations in parentheses.

4.3. The Impact of Financial Fraud on Household Financial Investment

Table 4 presents the estimation results of the impact of financial fraud on household holdings of financial products. As demonstrated in Column (1),(3),(5) in this table, the estimated coefficients of all core explanatory variables are positive and significant at 1% level, indicating that financial fraud will promote household take part in venture capital markets. In addition, when financial fraud increases one unit, the probability of household participating in the venture capital market will increase 0.335%, 0.019%, 0.08%, respectively.

ISSN: 2688-9323

Table 3: The impact of financial fraud on household fund investment

Variables	(1) Funddum	(2) Marginal	(3) Funddum	(4) Marginal	(5) Funddum	(6) Marginal
Frauddum	0.697***	0.0264***				
	(0.1000)	(0.00383)				
Fraud_number			0.220***	0.00830***		
			(0.0292)	(0.00111)		
Lnlost_fraud					0.0301	0.00114
					(0.0207)	(0.00787)
Age	0.0107***	0.000404***	0.0132***	0.000500***	0.0114***	0.0043***
	(0.00243)	(0.000922)	(0.00244)	(0.000093)	(0.00242)	(0.00092)
Gender	-0.334***	-0.0126***	-0.360***	-0.0136***	-0.327***	-0.012***
	(0.0709)	(0.00269)	(0.0711)	(0.00270)	(0.0708)	(0.00270)
Education	0.339***	0.0128***	0.335***	0.0126***	0.351***	0.0133***
	(0.0226)	(0.000900)	(0.0227)	(0.000902)	(0.0225)	(0.0009)
Hukou	-1.357***	-0.0513***	-1.367***	-0.0516***	-1.480***	-0.056***
	(0.238)	(0.00912)	(0.238)	(0.00911)	(0.238)	(0.00915)
Lntotall_income	0.537***	0.0203***	0.528***	0.0199***	0.550***	0.0219***
	(0.0365)	(0.00144)	(0.0365)	(0.00143)	(0.0363)	(0.00144)
Observations	21,704	21,704	21,704	21,704	21,721	21,721

Note: *** p <0.01, ** p <0.05, * p <0.1. Robust standard deviations in parentheses.

4.4. The Influence of Financial Fraud on Household Proportion of Risky Assets

Table 5 reports the estimated results of the financial fraud on household proportion of risky assets. Table 6 provides the simplest evidence of the positive and significant impact of the financial fraud on households' proportion of risky assets. We can see from column (1), (2), (3) of table 6, the estimated coefficients of all core explanatory variables are positive and significant at 1% level, suggesting that financial fraud have a positive effect on household holding risky assets. Further, when financial fraud increases one unit, the proportion of households' proportion will increase 5.72%, 2.39%, 0.42%. Thus, in view of the above analysis, we can conclude that financial fraud has a significant positive impact on households holding risky assets. As for control variables, we get the same result as last section.

ISSN: 2688-9323

Table 4: The impact of financial fraud on household financial investment

Variables	(1) Financial fraud	(2) Marginal	(3) Financial fraud	(4) Marginal	(5) Financial fraud	(6) Marginal
Frauddum	0.568***	0.0337***				
	(0.0563)	(0.00335)				
Fraud_number			0.261***	0.0154***		
			(0.0186)	(0.00109)		
Lnlost_fraud					0.0468***	0.028***
					(0.0139)	(0.0008)
Age	-0.0164***	-0.00097***	-0.0139***	-0.0008***	-0.0159***	-0.0094***
	(0.00162)	(0.0000958)	(0.00163)	(0.000095)	(0.00161)	(0.0009)
Gender	-0.140***	-0.00828***	-0.169***	-0.0099***	-0.134***	-0.0079***
	(0.0453)	(0.00269)	(0.0456)	(0.00269)	(0.0452)	(0.00270)
Education	0.380***	0.0226***	0.370***	0.0218***	0.395***	0.0235***
	(0.0143)	(0.000842)	(0.0144)	(0.000841)	(0.0142)	(0.000839)
Hukou	-1.371***	-0.0814***	-1.344***	-0.0791***	-1.465***	-0.0873***
	(0.111)	(0.00668)	(0.111)	(0.00663)	(0.110)	(0.00668)
Lntotall_income	0.424***	0.0252***	0.413***	0.0243***	0.437***	0.0260***
	(0.0227)	(0.00134)	(0.0227)	(0.00133)	(0.0225)	(0.00134)
Observations	33,396	33,396	33,396	33,396	33,433	33,433

Note: *** p <0.01, ** p <0.05, * p <0.1. Robust standard deviations in parentheses

ISSN: 2688-9323

Table 5: the results of the proportion of risky assets held by households

	(1)	(2)	(3)
Variables	Risk assets/total assets	Risk assets/total assets	Risk assets/total assets
Frauddum	0.0573***		
	(0.00422)		
Fraud_number		0.0239***	
		(0.00150)	
Lnlost_fraud			0.00402***
			(0.00114)
Age	-0.000176	4.72e-05	-0.000137
	(0.000125)	(0.000125)	(0.000125)
Gender	-0.00503	-0.00738**	-0.00472
	(0.00356)	(0.00356)	(0.00356)
Education	0.0392***	0.0384***	0.0410***
	(0.00119)	(0.00119)	(0.00120)
Hukou	-0.129***	-0.128***	-0.139***
	(0.00728)	(0.00726)	(0.00728)
Lntotall_income	0.0471***	0.0464***	0.0487***
	(0.00178)	(0.00177)	(0.00178)
Observations	33,376	33,376	33,413

Note: *** p <0.01, ** p <0.05, * p <0.1. Robust standard deviations in parentheses

5. Conclusion

The purpose of this study is to examine the impact of financial fraud on households risk invest intention. We achieve this goal by running probit and tobit regressions in the benchmark analysis using the data of China Household Finance Survey (CHFS) in 2015. The study found that, first of all, the experience of financial fraud had a significant positive impact on the household holding of risky assets,that mean financial fraud can promote household participate in risk finance market. Moreover, the positive effect of financial fraud is higher for urban family, higher educated and higher income family. Finally, the mechanisms of this effect we guess that is as people who have experienced financial fraud will have a further in-depth understanding of the financial market, they will be more willing to participate in various financial activities and even make venture investment after they have certain financial knowledge.

References

[1] Agnew J, Balduzzi P, Sundén A. Portfolio Choice and Trading in Large 401(k) Plan. American Economic Review, 2003, 93(1) :193-215.

[2] Guiso L, Jappelli T, Terlizzese D. Income Risk, Borrowing Constraints, and Portfolio Choice. American Economic Review, 1996, 86(1): 158-172.

[3] Guiso H, Kubik J D, Stein J C. Social Interaction and Stock Market Participation. Journal of Finance, 2004, 59(1): 137-163.

[4] Heaton J, Lucas D. Market Frictions, Savings Behavior, and Portfolio Choice. Macroeconomic Dynamics, 1997(1): 76-101.

ISSN: 2688-9323

[5] Embrey L L, Fox J J. Gender Differences in the Investment Decision-Making Process. Financial Counseling and Planning, 1997, 8(2): 33-40.

[6] Merton R C. A Simple Model of Capital Market Equilibrium with Incomplete Information. The Journal of Finance, 1987,42 (3): 483-510.

[7] Modigliani F, Brumberg R E. Utility Analysis and the Consumption Function: An Interpretation of Cross-section Data. Rutgers University Press, 1954.