

The Effect of Financial Fraud on Residents' Subjective Well-Being

Xinxin Meng and Xiaobing Huang

School of Business, Gannan Normal University; Ganzhou; Jiangxi 341000, China

Abstract

This paper studies the impact of financial fraud on residents' subjective well-being by using 2015 Chinese household financial survey data (CHFS). This paper uses residents' happiness index, life satisfaction index and sense of security index to quantitatively evaluate residents' subjective well-being. Ordered logit model found that financial fraud had a significant negative impact on residents' happiness index, and financial fraud would reduce residents' happiness index. OLS model research found that financial fraud can significantly reduce residents' life satisfaction index and security index.

Keywords

financial fraud, happiness index, life satisfaction index, security index.

1. Introduction

Life happiness is always a new topic and the ideal goal of human pursuit. The development and progress of society should also be reflected in the general improvement of people's life happiness. Since the reform and opening up, China has made remarkable achievements in economic development which has brought a qualitative leap to people's living standard. However, citizens' happiness has not realized rapid growth in line with the economy (Wu and Zhou, 2017). In recent years, with the rapid development of information and communication technology, the wave of financial innovation is also constantly advancing. Financial innovation provides more investment opportunities and convenience for people's life, which will undoubtedly increase people's happiness. However, various kinds of financial fraud also develop rapidly, such as credit card fraud, telephone fraud, Internet fraud and fund-raising fraud. Financial fraud not only directly causes economic losses to the victim, but also causes psychological and mental stress to the victim to some extent, which will seriously affect people's happiness level. Therefore, under this background, it is a great significance to study the impact of financial fraud on residents' subjective well-being.

2. Literature Review

Researchers have been studying subjective well-being since the 1950s, spanning psychology, sociology and economics. Most of the studies focus on the factors that affect happiness, including macro factors and micro factors. Include economic growth (Oswald, 1997), economic crisis (Deaton, 2012), unemployment rate and inflation rate (Di Tella et al., 2001), democratic system (Dorn et al., 2007) and natural environment (Brereton et al., 2008), and income inequality (Cai and Park, 2016) and so on.

Some scholars have also paid attention to the relationship between financial development and residents' happiness. Li et al. (2011) found that whether to invest in real estate or not and the nature of housing property rights had a significant impact on residents' happiness. Merkle et al. (2015) pointed out that investors' performance in the capital market affects their happiness. Yin et al. (2019) found that family participation in high-risk financial investment significantly reduced family happiness. On the basis of previous studies, this paper conducts an empirical study on the impact of financial fraud on residents' subjective well-being.

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. After eliminating missing values and fuzzy values of key variables, we obtain a sample with 9322 households.

The key to the study of residents' subjective well-being is how to measure happiness scientifically. According to the information provided by the data, this paper attempts to conduct quantitative evaluation of subjective well-being from three aspects, including residents' happiness index, life satisfaction index and security index.

As for core explanatory variables, we select financial fraud (Fraud), the number of experienced financial fraud (Fraud_number), the amount of losses (Lnlost_fraud). Explanatory variable "fraud" is dummy equal 1 if the respondent experienced financial fraud, otherwise 0. As for the number of types of financial fraud experienced, there are altogether six forms of financial fraud in CHFS, 1 for one type financial fraud, 2 for two, and so on. The amount of money lost due to financial fraud of the interviewed households is logarithmic here.

The control variables selected in this paper are the respondents' education level, age, age's squared, gender, marital status, household registration and total family income.

Table 1. Variable definitions

Variables	Variable description
Happiness	The happiness of the visitor, very unhappy =1 unhappy =2, average =3, happy =4, very happy =5.
Life satisfaction	The respondents' satisfaction with the community/village, according to the average score of the satisfaction questions in the questionnaire. very dissatisfied =1, dissatisfied =2, generally =3, relatively satisfied =4, very satisfied =5.
Security	Respondents' sense of security, very unsafe =1, not very safe =2, generally =3, relatively safe =4, very safe =5
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 1 to 6
Lnlost_fraud	Losses due to fraud
Age	The age of householder
Age^2	The square of the respondent's age
Gender	Male = 1; female = 0.
Education	Never attended school = 1; primary school education=2;juniorhigh 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.
Lntotal_income	Total household income
Marry	1 for married, 0 for unmarried

3.2. Specification

We establish the following empirical specification to exam the nexus between financial fraud and residents' subjective well-being. Residents' happiness index is ordered data, therefore, we adopt ordered Logit model to conduct regression analysis of residents' happiness index, while OLS model is used to conduct regression analysis of residents' life satisfaction index and security index.

$$happiness_i = \beta_0 + \beta_1 X_i + \beta_2 Z_i + \mu_i \tag{1}$$

$$satisfaction_i = \beta_0 + \beta_1 X_i + \beta_2 Z_i + \mu_i \tag{2}$$

$$security_i = \beta_0 + \beta_1 X_i + \beta_2 Z_i + \mu_i \tag{3}$$

Where, $happiness_i$, $satisfaction_i$ and $security_i$ respectively represent the happiness index, satisfaction index and security index of the i -th resident. X_i is the core explanatory variable, which mainly refers to whether one has experienced financial fraud, the types of financial fraud and the amount of money lost due to financial fraud. Z_i represents the control variable. μ_i is a random disturbance term.

With respect to demographic characteristics, it is found that the respondents' average happiness, satisfaction and security indexes are 3.7410, 3.6473 and 2.9639, respectively, indicating that the majority of respondents have low levels of subjective well-being. The average education of respondents was between junior high and high school. The gender distribution of interviewees is almost balanced. The average age of the respondents was about 56. 70% of the respondents were citizen and 84% were married.

Table 2. Summary statistics

Variables	Obs	Mean	Standard error	Min	Max
Happiness	19322	3.7410	0.8267	1	5
Life satisfaction	9322	3.6473	0.6921	1	5
Security	9322	2.9639	0.6568	1	5
Fraud	9322	0.5805	0.4935	0	1
Fraud_number	9322	1.1327	1.1550	0	5
Lnlost_fraud	9322	0.2376	1.3345	0	14.5087
Age	9322	56.2203	14.7801	19	103
Age^2	9322	3379.154	1682.044	361	10609
Gender	9322	0.5406	0.4984	0	1
Education	9322	3.4323	1.6864	1	9
Hukou	9322	0.2965	0.4567	0	1
Lntotall_income	9322	10.4301	1.4814	0	15.4250
Marry	9322	0.8495	0.3576	0	1

4. Empirical Results

4.1. The Impact of Financial Fraud on Residents' Happiness Index

Table 3 reports the results of the impact of financial fraud on residents' happiness index estimated by the ordered Logit model. In this table, we can see from Column (1), the estimated coefficients of Fraud are negative and significant at 10%, indicating that fraud have negative impact on residents' happiness index. In addition, as demonstrated in Column (2) and (3) in this table, the estimated coefficients of Fraud_number and Lnlost_fraud are both negative and significant at 5% level. Meaning Fraud_number and Lnlost_fraud is also will affect and further reduce people's happiness index. So, we can conclude that financial fraud has a negative impact on residents' happiness index.

Table 3. The impact of financial fraud on residents' happiness index

VARIABLES	(1)	(2)	(3)
	happiness	happiness	happiness
Fraud	-0.131*** (0.0385)		
Fraud_number		-0.0418** (0.0167)	
Lnlost_fraud			-0.0327** (0.0137)
Age	-0.0806*** (0.00860)	-0.0812*** (0.00860)	-0.0817*** (0.00859)
Age_2	0.000859*** (7.52e-05)	0.000862*** (7.52e-05)	0.000869*** (7.51e-05)
Gender	-0.115*** (0.0369)	-0.113*** (0.0369)	-0.114*** (0.0369)
Education	0.0821*** (0.0131)	0.0817*** (0.0132)	0.0766*** (0.0130)
Rural	0.0422 (0.0445)	0.0496 (0.0444)	0.0636 (0.0440)
Lntotal_income	0.139*** (0.0139)	0.138*** (0.0139)	0.135*** (0.0138)
Marry	0.519*** (0.0550)	0.517*** (0.0551)	0.525*** (0.0550)
Observations	10,885	10,885	10,901

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

4.2. The Impact of Financial Fraud on Residents' Life Satisfaction Index

Table 3 shows the estimation results using satisfaction as dependent variables. As shown in the Column(1), (2) and (3) in this table, the estimated coefficients of all three core explanatory variables are negative and significant at 10% level, which suggests that no matter what measurements are utilized, financial fraud have a negative effect on residents' satisfaction index level. The corresponding conclusion that is financial fraud will significantly reduce the level of residents' life satisfaction index.

Table 4. The impact of financial fraud on residents' life satisfaction index

VARIABLES	(1)	(2)	(3)
	satisfaction	satisfaction	satisfaction
Fraud	-0.119*** (0.0153)		
Fraud_number		-0.0520*** (0.00676)	
Lnlost_fraud			-0.0194*** (0.00566)
Age	0.0175*** (0.00353)	0.0168*** (0.00353)	0.0165*** (0.00354)
Age_2	-9.24e-05*** (3.07e-05)	-8.86e-05*** (3.07e-05)	-8.39e-05*** (3.08e-05)
Gender	-0.0214 (0.0149)	-0.0197 (0.0149)	-0.0206 (0.0150)
Education	-0.0231*** (0.00540)	-0.0214*** (0.00543)	-0.0290*** (0.00536)
Rural	0.105*** (0.0172)	0.106*** (0.0172)	0.124*** (0.0171)
Lntotal_income	-0.00777 (0.00546)	-0.00736 (0.00547)	-0.0108** (0.00545)
Marry	-0.0719*** (0.0226)	-0.0745*** (0.0226)	-0.0689*** (0.0226)
Constant	3.242*** (0.112)	3.249*** (0.112)	3.249*** (0.112)
Observations	8,618	8,618	8,629
R-squared	0.061	0.061	0.055

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

4.3. The Impact of Financial Fraud on Residents' Security Index

Table 5 presents the regression results of the influence of financial fraud on residents' security index by OLS model. The regression coefficients of three core explanatory variables, which we are concerned with, are all negative and significant at 10% level. Indicating that financial fraud (Fraud), number of types of fraud (Fraud_number) and losses from fraud (Lnlost_fraud) all have significant negative impact on residents' sense of security and financial fraud will reduce residents' sense of security.

Table 5. The impact of financial fraud on residents' security index

VARIABLES	(1)	(2)	(3)
	security	security	security
Fraud	-0.127*** (0.0132)		
Fraud_number		-0.0505*** (0.00575)	
Lnlost_fraud			-0.0143*** (0.00460)
Age	-0.0124*** (0.00294)	-0.0130*** (0.00294)	-0.0133*** (0.00295)
Age_2	0.000154*** (2.56e-05)	0.000158*** (2.56e-05)	0.000163*** (2.57e-05)
Gender	0.127*** (0.0127)	0.129*** (0.0128)	0.126*** (0.0128)
Education	0.0203*** (0.00453)	0.0214*** (0.00456)	0.0140*** (0.00451)
Rural	0.146*** (0.0153)	0.150*** (0.0153)	0.168*** (0.0152)
Lntotal_income	-0.00241 (0.00476)	-0.00215 (0.00477)	-0.00607 (0.00476)
Marry	-0.0188 (0.0187)	-0.0210 (0.0187)	-0.0145 (0.0188)
Constant	3.072*** (0.0932)	3.074*** (0.0932)	3.077*** (0.0935)
Observations	10,654	10,654	10,669
R-squared	0.051	0.050	0.044

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 residents' subjective well-being. We achieve this goal by running ordered Logit and OLS regressions in the benchmark analysis using the data of China Household Finance Survey (CHFS) in 2015. The study found that, financial fraud will reduce residents' happiness index, life satisfaction index and safety index. While these three indexes are proxy variables for residents' overall happiness level (subjective well-being). So, we can come to the conclusion that financial fraud will reduce the level of subjective well-being of residents.

In view of the above research results and the ultimate goal of China's economic development in the economic transition period, we put forward some policy proposals as follows, firstly, Strengthen the supervision of the financial system to reduce the occurrence of financial fraud so as to improve people's happiness. Secondly, popularizing financial knowledge to reduce the probability of financial fraud. Thirdly, concerning other comprehensive factors these who will affect residents' subjective well-being, besides financial fraud.

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