

Subjective Well-being and Family Investment: Based on CGSS Data

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Abstract: As an important micro-component of society, household's investment activities play an important role in economic development and structural optimization. The existing literature pays more attention to the impact of objective factors on family investment, but it is less concerned about how subjective factors affect household investment. This paper uses the 2015 CGSS survey data to assess the impact of subjective factors of residents' subjective well-being on their household's investment. The study found that well-being significantly increased the probability of household's investment activities. On average, subjective well-being increased by a standard deviation, and the probability of residents' family investment activities increased by about 0.885 percentage points. The findings in this paper mean that the Chinese government's administrative efforts to enhance the well-being of residents will provide endogenous motivation for sustained economic development in China.

Introduction

China's economy has continued to grow for nearly 40 years. With the increase and accumulation of material wealth, economic life as a whole has surpassed the "state of scarcity". With the continuous development of China's financial market in recent years, a variety of financial products such as stocks, funds, bonds, futures, warrants and foreign exchange investment are emerging. After the price of the real estate market soared in 2004, property speculation has also become an investment means for the middle and upper income groups. Families and individuals are more and more actively participating in investment activities. The transformation of economic growth mode aiming at improving people's livelihood and residents' well-being will directly and comprehensively establish a close relationship with economic growth and capital expansion.

In this context, this paper uses the large-scale micro data of Chinese comprehensive social survey to quantitatively measure the impact of subjective well-being on household investment activities. The academic contribution of this paper lies in how to encourage families to make reasonable investment, play a positive role in expanding domestic demand and stimulating economic growth, and also provide decision-making basis for the government's macroeconomic control measures under the new normal economic development situation. However, this paper only initially measures the relationship between subjective well-being and family investment, and its mechanism needs to be verified later.

The structure of this paper is as follows: the second part is literature review and theoretical analysis; the third part is research design, including data description, model setting and descriptive statistics of variables; the fourth part is empirical results analysis; the fifth part is research conclusion.

Literature Review and Theoretical Analysis

The ultimate goal of economic growth and government policies is to improve national welfare, and well-being is a direct measure of personal subjective welfare, which makes the economic research of well-being an important and hot topic. With the rise of well-being economics research, more and more scholars turn their attention to how subjective well-being affects people's behavior decision-making. In psychological research, emotion refers to the individual's emotion and its

unique thought, mental and physiological state, as well as a series of action tendencies. Both expected emotions and immediate emotions significantly affect the individual's decision-making and behavior (Isen, 2008 [1]; Rick and Loewenstein, 2017[2]). Andrew and Wittey (1976) [3] found that well-being, as a typical positive emotion (such as optimism, enthusiasm, helping others), can also have an important impact on individual behavior choices and results.

Using experimental economic methods, foreign literature has confirmed that positive emotions can significantly promote pro-social behaviors (such as reciprocity, generosity, altruism, etc.) and inhibit retaliation for anger (Capra, 2004)[4]. The empirical research of Guven (2011)[5] also confirmed that well-being can significantly increase personal social capital. In addition to promoting the pro-social behavior of individuals, a large number of literature studies have also found that well-being can bring considerable objective benefits to individuals, including improving personal income and productivity, increasing the probability of reemployment and wages (Krause, 2013) [6].

Domestic scholars have also conducted a systematic study on how well-being affects individual behavior decision-making. Li and Chen(2015)[7] use CHIP data 2002 and 2007 to confirm that well-being is positively correlated with the probability of employment. Kang(2017) [8]found that higher well-being can promote residents' environmental participation behavior based on 2010 CGSS data,. Since well-being can significantly affect people's behavior choices, well-being may also significantly affect family investment activities.

With the continuous development of society, people's living standards are constantly improving, the financial market is becoming more prosperous, financial products are diversified, so that increasing investors enter the financial market to invest, investment decision-making and investment risk attitude are becoming more and more important. At the same time, mounting researchers have carried out theoretical and Empirical Analysis on investment from different angles.

In recent research on investment factors, Liao Juan (2010) [9] found that the risks and benefits of higher education investment didn't have a decisive impact on the educational choice of ordinary high school students, and the individual risk aversion attitude had a significant positive impact on the choice of higher education. Yin Shanan et al. (2011)[10] found that personal characteristics such as personal wealth can significantly affect the risk preference of investors, and rich information sources can improve the risk preference of investors. Zhou Hong (2015)[11] proved that financial education can significantly improve the probability of family participation in the financial market, and distinguishing family risk types can better implement financial education; Zhang Wei (2015)[12] used the multiple choice logistic model in the discrete dependent variable model based on micro data of CHFS 2011 to income, education level, rural household registration and investment risk attitude the impact mechanism.

Based on the existing literature, subjective well-being may affect family investment activities through the following two mechanisms. On the one hand, well-being may determine one's risk preference, and then affect the family's investment, which accompanies risk. Therefore, when choosing family investment activities, we need to have certain risk tolerance. Only individuals with tolerance and tolerance for risks and uncertainties can choose to invest instead of depositing their income in the bank. Theoretically, positive emotions such as well-being have two-side effects on personal risk behavior and risk preference. People with higher well-being have stronger ability of rational analysis and more optimistic expectation for the results of risk activities, which will improve their risk tolerance and make them more willing to participate in risk activities. However, people with higher well-being also want to maintain the current situation state, being more cautious and rational in risk assessment with less excessive risk-taking behavior (Goudie et al., 2014 [13]).

Empirical research on well-being and personal preference has not reached consensus. For example, Delis and Mylonidis (2015) [14] found that people with higher well-being were less likely to invest in risky assets. However, Rao et al. (2016)[15] used CHFS data to find that well-being significantly increased individual stock market participation. Therefore, from the perspective of risk preference, the impact of subjective well-being on family investment activities is uncertain.

On the other hand, well-being may promote investment activities through social capital owned

by individuals. As mentioned above, people with higher well-being show more pro-social behaviors, including willingness to participate in social activities more frequently, which helps individuals expand social networks, obtain more information, and reduce the loss caused by information asymmetry in the investment process. As an important part of social capital, rich social networks can help individuals and families get more private capital and ease financing constraints (Hu and Zhang, 2014[16]). In addition, higher well-being can also improve the level of personal social trust (Zhou, et al., 2015[17]) and generate investment motivation.

Based on the above analysis, most existing literature focuses on the impact of objective factors on family investment activities, but less on the consideration of subjective factors. From the perspective of subjective well-being, this paper will explore its impact on family investment activities.

Research Design

The data used in this paper comes from the data of Chinese Comprehensive Social Survey (CGSS) in 2015. Chinese comprehensive social survey is the first national, comprehensive and continuous large-scale social survey project in China. By collecting data of Chinese people and all aspects of Chinese society on a regular and systematic basis and summarizing the long-term trend of social change. The micro survey data is widely used in studying hot issues such as well-being, values, entrepreneurship and family investment of Chinese residents. CGSS2015 annual survey results include 10968 individuals. After data cleaning and sorting, 8701 effective variables were obtained.

In order to test the impact of subjective well-being on family investment probability, this paper refers to Chen (2015) [18], and sets the regression equation as probit model based on individual data, as shown below.

$$Pr o(invest_{ij} = 1) = \phi(\alpha_1 happiness_i + \beta X_{ij} + \gamma Z_j) \quad (1)$$

The explained variable investment is a virtual variable of 0-1. When interviewed family is participating in investment activity, the value of investment is 1, otherwise it is 0. On the right side of the equation, well-being represents the subjective well-being of the respondents. The questionnaire asks the respondents "in general, do you think your life is happy?", the corresponding options are "very unhappy", "relatively unhappy", "unable to say happy or unhappy", "relatively happy" and "very happy". We successively assign the variable well-being as 1, 2, 3, 4, 5. The greater the value of well-being, the higher the well-being of the respondents.

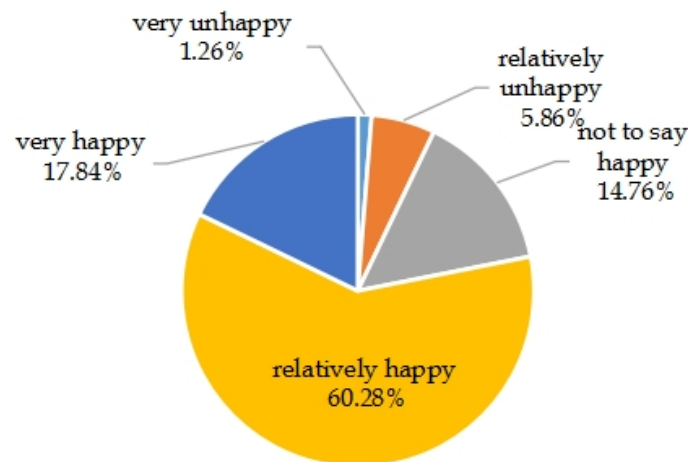


Figure 1. Distribution of well-being based on CGSS 2015 data

It can be seen from Fig.1 that more than half of the respondents choose "relatively happy", followed by "very happy", "can't say well-being is not happy", "relatively unhappy" and "very

unhappy". The results in Table 1 show that the overall level of subjective well-being of Chinese residents is relatively high, but there are still 1.26% residents in a very unhappy stage.

Based on existing research, the probability of family investment activities is usually affected by two kinds of factors, family characteristic factor X and regional factors Z. Table 1 explains the meaning of control variables.

Table 1. Description of control variables

	Variable name	Meaning
X	male	whether the householder is male if yes, male=1; otherwise, male=0
	age	age of respondent in 2015
	age_square	square of age of the respondent in 2015
	religion	whether the respondent has religious belief if yes, religion=1; otherwise, religion=0
	education	education year of the respondent
	party	whether the respondent is a member of Chinese Communist Party if yes, party=1; otherwise, party=0
	income	natural logarithm of respondents' total income in the previous year
	urban	whether the respondent is a member of Chinese Communist Party if yes, party=1; otherwise, party=0
Z	population	natural logarithm of population of the province/municipality of the respondent
	gdp	natural logarithm of per capita GDP of the province/municipality of the respondent
	municipality	whether the city of respondent is municipality if yes, municipality=1; otherwise, municipality=0

Data source: CGSS2015; China Statistical Yearbook 2015

Descriptive statistics of the main variables are reported in Table 2. In general, 9.47% of the surveyed households are engaged in investment activities. The average value of well-being is 3.8756, which means respondents feel "relatively happy" about life in general. The mean values of male, religion, party and urban variables are 0.5117, 0.1027, 0.1201 and 0.4969, respectively, indicating that 51.17% of the respondents are male, 10.27% of the respondents have religious beliefs, 12.01% of the respondents are CPC members, and 49.69% of the respondents have urban household registration. It also can be seen that the average age of the respondents is 51.18 years old and the average years of education is 8.84 years.

Table 2. Descriptive statistics of main variables

Variable	Sample	Mean	Standard deviation	Maximum	Minimum
invest	8701	0.0947	0.2928	0	1
well-being	8701	3.8756	0.8116	1	5
male	8701	0.5117	0.4999	0	1
age	8701	51.1852	16.1981	18	94
age_square	8701	2882.27	1698.88	324	8836
religion	8701	0.1027	0.3036	0	1
education	8701	8.8421	4.6419	0	19
party	8701	0.1201	0.3251	0	1
income	8701	9.7652	1.2703	3.9120	16.1181
urban	8701	0.5554	0.4969	0	1

Variable	Sample	Mean	Standard deviation	Maximum	Minimum
gdp	8701	10.9019	0.4039	10.1722	11.5895
municipality	8701	0.1634	0.3698	0	1

Analysis of Empirical Results

The probit estimation regression results are shown in Table 3. Column(1) are the results of regression with well-being as the only explanatory variable, and family characteristics control variable and regional control variable are added to column (2) and column (3). According to the regression results, the coefficients of well-being are all positive and pass the significance test at the 5% confidence level, which shows that higher well-being helps to improve the probability of family investment activities. In column (3), the coefficient of the variable well-being is 0.0657, which means for each increasing standard deviation of residents' subjective well-being, the probability of family investment activities increases by about 0.885%.

Table 3. Probit regression results

VARIABLES	(1) invest	(2) invest	(3) invest
well-being	0.128*** (0.0245)	0.0597** (0.0280)	0.0630** (0.0284)
male		-0.109*** (0.0420)	-0.0730* (0.0427)
Continued Table3			
age		0.00123 (0.00736)	0.00355 (0.00744)
age_square		-7.87e-06 (7.19e-05)	-5.75e-05 (7.28e-05)
religion		0.234*** (0.0666)	0.273*** (0.0680)
education		0.0852*** (0.00651)	0.0769*** (0.00668)
party		0.0794 (0.0582)	0.116** (0.0588)
income		0.273*** (0.0227)	0.215*** (0.0236)
urban		0.174*** (0.0478)	0.133*** (0.0484)
population			0.0783 (0.0481)
gdp			0.483*** (0.0764)
municipality			0.0959 (0.0888)
Constant	-1.815*** (0.0987)	-5.277*** (0.304)	-10.61*** (0.839)
Pseudo R ²	0.0052	0.1644	0.1812
Observations	8,701	8,701	8,701

Standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

Let's focus on the results in column (3). Among control variables, coefficient of "male" is -

0.073 at 10% confidence level, which proves that the family status of men and women tends to be equal gradually. The regression results of “age” are positive and “age square” are negative, which indicates that the influence of age on family investment activities is a U-shaped line with the opening downward. The coefficient of “religion” is very significant in (2) and (3), and has a positive role in promoting family investment activities. Religious belief is an important part of social culture. In most doctrines, it is emphasized to maintain a positive attitude towards life, believe in the existence of personal values, and strive to achieve personal pursuit. These initiatives will increase the well-being of individuals and families, promote families to contact with new things and participate in venture capital. Wang et al. (2017) ^[19] finds that families with religious belief have more positive performance in financial venture capital investment, and the more frequently they participate in their own religious organizations, the more likely they are to invest in financial risk assets. Coefficients of “education” and “income” are significantly positive, and the results are in line with expectations. The more years of education, the more knowledge, the more Internet access, the more investment opportunities. The higher the family income, the more liquid capital, the more needs and incentives for the family to carry out investment activities with a certain degree of risk. The regression result of “party” is positive, and it has passed the significance test with 5% confidence level in column (3). It takes strict selection to become a party member of the Communist Party of China. The party members themselves come from the excellent masses and are strong in decision-making power and the ability to grasp the opportunity. Therefore, the identity of Party members has a positive role in promoting family investment activities to a certain extent. The marginal effect of “urban” is 0.106. Compared with rural residents, they are more advanced in investment awareness and investment environment.

Compared with the results of column (2) and (3), it can be seen that the effect of adding regional control factors on individual characteristic variables is not significant. Among the regional control factors, only the per capita GDP has passed the significance test with the confidence level of 1%, which shows that the actual economic development of the region can really promote family investment activities.

Conclusion

The decision-making and behavior of individuals are inevitably influenced by their emotional factors. Generally speaking, people who feel happier tend to have more positive emotions and less negative emotions. Therefore, well-being has an important impact on people's behavior. Using the CGSS cross-sectional data of 2015, this paper evaluates the impact of subjective well-being on family investment behavior, and finds that well-being significantly improves the probability of family investment activities.

In modern economic, investment is very important for economic development. The goal of socialist macro-economy is to promote the sustained, rapid, healthy and stable development of national economy. Through reasonable family investment, household income will go up and so will people's living standard quality, which is conducive to the realization of macroeconomic goals. China's economy has now entered a critical period of transformation and upgrading, and paying more attention to the structural reform of supply measurement has become the focus of China's economic reform. At the same time, with the central government's governance philosophy increasingly emphasizing "people-oriented", improving residents' well-being has become a key target of public policies of Chinese governments at all levels. In the report of the 19th National Congress of the Communist Party of China, "improving the level of security and improving people's livelihood" is an important task in the future economic and social development. The research of this paper means that the Chinese government takes improving residents' well-being as the target of public policy, which not only makes the public policy return to its ultimate goal, but also may stimulate market vitality and promote the sound and healthy development of China's economy through the probability of family investment activities.

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