Work Type, Enterprise Nature and Household Asset Allocation

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Abstract: Using the China Household Financial Service (CHFS2013) data to study the impact of job type and corporate nature on household participation in financial market behavior. The research shows that employees of administrative institutions and enterprises are more inclined to participate in financial market investment. Individual operators show significant adverse psychology to financial market participation, while individual operators show significant adverse psychology to financial market participation. As for the nature of enterprises, the trade unions of state-owned enterprises and foreign-funded enterprises significantly increase the probability of participating in the financial market, but the willingness and probability of employees of private enterprises participating in the financial market are at a low level. The conclusion of the study not only enlightens financial institutions to provide financial services, but also provides a reference for the government to formulate economic policies.

1. Introduction

In recent years, with the steady and rapid development of the Chinese economy, the household assets of residents have been accumulating and growing. Credit Suisse's latest “Global Wealth Report for 2018” shows that China's current household wealth has reached $52 trillion, surpassing Japan and following the United States, ranking second in the world. The growing scale of household assets has become an important part of China’s social wealth.With the increase of household wealth and the development of China's financial market,household is facing more diversified investment channels. The willingness of households to participate in the financial market and make value investments through financial products has gradually increased.According to the Household Financial Service data of China in 2011,household's financial market participation rate is only 11.5%, the participation rate in the stock market is 8.8%, and the participation rate in the fund market is 4.2%.Overall, the rate of Chinese household participation in financial markets is low.

Household participation in financial market decisions is influenced by many factors. There are not only external macro factors, such as economic situation, political environment, social security, but also individual characteristics and economic conditions of households, such as gender, age, marriage, education, preferences, wealth and so on. Since ancient times, traditional Chinese society has regarded enrollment, career choice and marriage as three major events in life.Work is a person's role in society, an important source of economic life and a symbol of social identity.As an important individual characteristic of households, the existing literature has studied the impact of education, marriage and other aspects on household asset allocation, but seldom from the perspective of work on household asset allocation.This paper examines the impact of work types on household asset allocation from this perspective, and attempts to provide reference and supplement to the study of individual characteristics on household asset allocation.

On the one hand, work will affect the identity of residents participating in social activities and the social role they play,and produce psychological differences to residents,thus affecting the household's asset allocation from a psychological point of view.on the other hand, the household's wealth level and economic income sources will also vary according to different jobs, which will affect the allocation of household assets from economic factors. Therefore, this paper takes the type of work and the nature of the enterprise as the starting point to study its impact on household asset allocation.

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2. Literature Review

International research on the the factors affecting the allocation of household assets started early. Guiso & Jappelli (2000) used the panel data from the Italian Bank's Household Income and Wealth Survey from 1989 to 1998 to describe the characteristics and trends of the Italian household portfolio, describe the differences in household portfolios.It is found that there is a significant correlation between household allocation of risky assets and wealth, age and education. In addition, financial knowledge and information also have a great impact on household asset allocation. In 2006, when Campbell became the chairman of the American Financial Institute, he summarized the previous research, mainly introducing the diversification of household asset allocation decisions and the number of risk assets held,and created the term household finance for the field of financial economics. Through the study of the choice of mortgage loans in American household assets from 2001 to 2003, he found that young, highly educated, white rich households are likely to refinance their mortgages. Atella et al.(2012) analyzed the impact of residents' health status and future health risks on the holding of risky assets in ten European countries with different health service systems. They found that perceived future health status had a significant impact on the holding of risky assets. Only in countries with less health services, residents' health risks affected portfolio selection. Vickil & Angela (2013) analyzed the role of mental health and cognitive function in household portfolio decision-making based on HRS data from 1996 to 2008 in the United States. It was found that households affected by mental health problems reduced their investment in risk instruments, and the improvement of cognitive ability was related to the increase of financial assets in retirement accounts. Yilmazer & Lich (2015) also used the US survey data from 1992-2006 to find that when couples have different risk preferences, the proportion of risky assets in the household portfolio increases with the risk tolerance of spouses with greater bargaining power.That is, the investment of risky assets depends on the bargaining power of spouses with more risk tolerance. Broer (2017) found that the proportion of foreign stocks in the US household portfolios increased as the ratio of financial wealth to non-financial income increased.

China's research on household asset allocation started late. Shi & Song(2005) made an empirical analysis of the factors affecting the structure of household financial assets, such as age, wealth scale, gender of the head of household, education level, household responsibility, scale of household assets, convenience of access to financial services, and compared them with foreign studies, they put forward corresponding policy recommendations on the problems existing in the structure of household assets at that time. Lei & Zhou(2010),Wu et al.(2011) found that health status is an important factor affecting the asset portfolio of Chinese households. Health status has a greater impact on the asset selection of urban residents,the worse health status will reduce their financial assets, transfer assets to a safer direction, and reduce the holding of risky assets,while the impact of health conditions on rural residents is not significant.In addition, better health will significantly increase the proportion of stocks or risky assets in household assets. Wang & Wu(2014) studied the impact of marriage on household risk asset selection, and combined with gender, household income, wealth and other factors. The results show that married women are more likely to invest in risky assets and stocks than single women, and the proportion of risky assets allocation is larger than that of single women, while there is no difference between married and single men. Middle-income households are more vulnerable to marital status when making risk allocation decisions. Yin et al.(2014, 2015)studied the impact of financial availability, financial knowledge, financial market participation, investment experience and other factors on household asset allocation based on survey data. The results show that the increase of financial knowledge and investment experience will promote households to allocate more risky assets.The accumulation of investment experience will increase the proportion of residents' investment assets in the stock market and help to make profits in the stock market. The improvement of financial availability will promote households to participate more in formal financial markets and asset allocation, reduce household participation and asset allocation in informal financial markets.As the financial environment improves,household assets and income increase, the improvement of risk preference and education level will promote households to allocate more risky assets.

3. Model Construction and Number Explanation

The study of household asset allocation in this paper is mainly about whether the household participates in the financial market.Referring to previous studies, since whether or not to participate in financial markets is a virtual variable, when household participation in financial markets can be defined as 1 and non-participation is defined as 0, we can use probit model to study the impact of work type and enterprise nature on household asset allocation. The probit model is:

$$Y = 1(\alpha Job + X\beta + u > 0)$$

Among them, $u \sim N(0,\sigma^2)$; Y is whether the household participates in the financial market or not mentioned above; Job is the work variables that we are concerned about; X is the control variables that express the individual characteristics, economic status, residential area of the respondents; α and β are the influence coefficients of the above variables respectively.

The data used in this paper is from the China Household Financial Service (CHFS) project conducted by the China Center for Household Finance Research and Investigation Center of Southwestern University of Finance and Economics in 2013. The survey covers 29 provinces (cities and districts), 262 counties and 1048 villages (residential) committees in China with three-stage stratified sampling method. It includes information on demographic characteristics, employment, social security and insurance, income and expenditure, etc. This paper mainly studies the impact of work type and enterprise nature on household asset allocation. The following is a description of work type,enterprise nature,household financial participation and other control variables. Specific variables are described in Table 1.

Table 1 Variable Descriptions

Variable characteristics	Variable name	Variable description
Interpreted variables	Participate in financial markets	Households own risky assets such as stocks and funds,value 1,otherwise 0
Work type	Administrative institution	Household work as administrative institution,value 1,otherwise 0
	Enterprise	Household work as enterprise, value 1,otherwise 0
	Self-employed	Household work as individual business,value 1,otherwise 0
Enterprise nature	State-owned collective enterprise	The nature of enterprise is state-owned collective,value 1,otherwise 0
	Private enterprise	The nature of enterprise is private, value 1,otherwise 0
	Foreign-invested enterprise	The nature of enterprise is foreign-invested, value 1,otherwise 0
Control variable	Gender	When the respondent is male, the value is 1 and the female value is 0
	Age	The actual age of the respondent in that year, calculated by the age of the whole year
	Age squared	The age squared of the respondents divided by 100
	Marriage status	Married value is 1, unmarried value is 0
	Risk preference	When respondents show risk preference, the value is 1, otherwise it is 0
	Risk aversion	When respondents show risk aversion, the value is 1, otherwise it is 0
	Labor income	Logarithm of household's the sum of wages, bonuses and subsidies
	Education level	No culture, primary school, junior high school, secondary high school, junior college, master's and doctor's are 0, 1, 2, 3, 4, respectively
	Region	Household living in the east, middle and West are 1, 2 and 3, respectively

We take whether the household participates in the financial market as the explanatory variable. Referring to the previous research methods, when the household owns financial accounts or products such as stocks, funds, etc., it is defined as 1, otherwise 0. The type of work and the nature of enterprise are the core explanatory variables. According to the current type of work and the nature of enterprises in China and the questionnaire design in the database, we classify the types of work into three categories: administrative institutions, enterprises and self-employed enterprises, among which administrative institutions include government departments and institutions.The nature of enterprises is divided into state-owned collective enterprises, private enterprises and foreign-invested enterprise.China's collective enterprises include state-owned holdings and collective holding enterprises, foreign-invested enterprises including wholly foreign-owned enterprises, Hong Kong, Macao and Taiwan wholly-owned enterprises, Sino-foreign joint ventures and so on. The control variables include gender, age, marriage, risk attitude, labor income, education level, regional and other factors such as individual characteristics of household residents, income level, household living areas and so on. Among them, the respondents' gender, marriage, risk attitude, education level are virtual variables.The questionnaire on risk attitude in CHFS2013 is designed as: “If you have a sum of money, which investment project are you willing to choose? 1. Projects with high risks and high returns; 2. Projects with slightly high risks and slightly high returns; 3. Projects with average risks and average returns; 4. Projects with slightly low risks and slightly low returns; 5. Reluctance to take any risks.” This paper defines options 1 and 2 as risk preference, options 4 and 5 as risk aversion, and options 3 as reference group.

4. Empirical Analysis and Testing

According to the selection and setting of variables, after eliminating the samples with missing and abnormal values from the original database, 7293 household head samples are obtained. Table 2 lists the descriptive statistical analysis results of each variable. It can be seen that the proportion of sample households participating in financial markets such as stocks and bonds is 0.17. There are more households working in enterprises, while the proportion of public enterprises and private enterprises working in enterprises is higher.The proportion of male heads of households is 0.80, which is more in line with Chinese traditional customs. The average age of the head of household is 42.45 years old. Most of the households are married. The proportion of risk-averse households is as high as 0.57. The average level of education is close to high school education.

Table 2 Descriptive Statistical Analysis of Variables

Variable Name	Sample Number	Mean Value	Standard Deviation	Minimum Value	Maximum Value
Participate in financial markets	7293	0.17	0.38	0	1
Administrative institution	7293	0.28	0.45	0	1
Enterprise	7293	0.47	0.50	0	1
Self-employed	7293	0.20	0.40	0	1
State-owned collective enterprise	7293	0.19	0.39	0	1
Private enterprise	7293	0.23	0.42	0	1
Foreign-invested enterprise	7293	0.03	0.19	0	1
Gender	7293	0.80	0.40	0	1
Age	7293	42.45	10.26	18	81
Age squared	7293	19.07	8.90	3.24	65.61
Marriage status	7293	0.92	0.27	0	1
Risk preference	7293	0.14	0.35	0	1
Risk aversion	7293	0.57	0.49	0	1
Labor income	7293	10.31	0.87	1.39	14.30
Education level	7293	1.96	0.95	0	4
Region	7293	1.70	0.81	1	3

Table 3 reports the probit model estimates of the impact of work type and enterprise nature on financial market participation discussed in this paper. It can be seen that households working in administrative institutions and enterprises are more inclined to participate in the financial market, while self-employed households have obvious reverse psychology to invest in risky assets such as stocks, funds and so on. The staff of administrative institutions generally have sTable work and income, fixed working hours and need to deal with more daily affairs. The opening and trading hours of financial products such as stocks are usually working hours, and most of the "in-system" units prohibit or restrict the staff to work and speculate in stocks,so this part of the household generally participates in the financial market is not enthusiastic, lower than the corporate staff participation tendency. Relatively speaking, there are fewer investment restrictions for enterprise staff to enter the financial market. Although many work are busy, their work stability and income have certain volatility. For the motivation of preventing future uncertainties and the willingness to appreciate assets, they tend to have strong investment tendency. Therefore, the regression coefficient of participating in the financial market with enterprise staff is far greater than that of the staff from administrative institutions. Self-employed individuals have occupied a large amount of their own funds and assumed certain operational risks because they are engaged in their own business activities. In addition, they have spent a lot of energy in their business activities to engage in economic activities comparatively similar to financial market investment. For the purpose of risk aversion and investment substitution, the operators have reduced their willingness to participate in financial markets,which is consistent with previous studies (Shum & Faig, 2006).The regression results show that there is a significant negative relationship at the level of 5%, and the absolute value of the impact coefficient is larger than that of administrative institutions and enterprise personnel.

From the regression results of the classification of the enterprise nature, we can find that households working in state-owned collective enterprises and foreign- invested enterprises have a significant positive willingness to participate in the financial market, while those working in private enterprises have no obvious tendency to participate in the financial market investment. The characteristics of state-owned collective enterprises are similar to those of administrative institutions. Their work is more leisure than that of private and foreign-invested enterprises, but the difference is that there are no more investment restrictions, and the nature of their work belongs to enterprises in the final analysis. Employees of state-owned collective enterprises have a greater willingness to appreciate their assets. Therefore, the regression coefficient is larger. The empirical results also show that this willingness to invest and participate is greater than that of foreign-invested enterprises and private enterprises. Generally speaking, domestic employees working in foreign- invested enterprises usually have higher professional quality or specific professional skills, advanced personal concept, pioneering spirit, faster acceptance of new things, relatively high income level, easier access to financial knowledge and financial services, therefore they have a strong investment tendency.however, employees of foreign companies tend to work harder and have less leisure time than employees of state-owned enterprises.So it is not difficult to understand that the regression coefficient of their investment tendencies is smaller than that of state-owned enterprises. Employees in private enterprises are busier than those in state-owned collective enterprises, and their income levels are generally lower than those in foreign enterprises. Moreover,private enterprises employees are comparatively similar to those in self-employed enterprises. They have certain risks of unemployment and undertaking the impact of declining corporate performance on personal income. At the same time, they are faced with the possibility of increasing corporate performance and income. Practitioners are not inclined to participate in financial market investment for the purpose of risk aversion and employment alternative investment.It is not inclined to participate in financial market investment. This negative effect greatly offsets the positive investment tendency brought by the relatively higher income level than that of state-owned collective enterprises, so it shows a weak investment willingness.

Table 3 Types of Work, Nature of Enterprises and Participation in Financial Markets

Explanatory variable	Participate in financial markets	Explanatory variable	Participate in financial markets
Administrative institution	0.02 (0.11)	State-owned collective enterprise	0.35*** (0.05)
Enterprise	0.14 (0.11)	Private enterprise	0.02 (0.05)
Self-employed	-0.24** (0.12)	Foreign-invested enterprise	0.20** (0.09)
Gender	-0.18*** (0.05)	Gender	-0.19*** (0.05)
Age	0.11*** (0.02)	Age	0.10*** (0.02)
Age squared	-0.10*** (0.02)	Age squared	-0.09*** (0.02)
Marriage status	0.18** (0.09)	Marriage status	0.19** (0.09)
Risk preference	0.21*** (0.06)	Risk preference	0.20*** (0.06)
Risk aversion	-0.30*** (0.04)	Risk aversion	-0.29*** (0.04)
Labor income	0.26*** (0.03)	Labor income	0.25*** (0.03)
Education level	0.44*** (0.03)	Education level	0.46*** (0.03)
Region	-0.16*** (0.02)	Region	-0.16*** (0.02)
LR chi²	1207.36	LR chi²	1228.61
Pseudo R²	0.18	Pseudo R²	0.18
Observations	7293	Observations	7293

Note: The standard error is in parentheses, and "***", "**", "*" indicate significant levels at 1%, 5%, and 10%, respectively.

The influencing factors of control variables are basically consistent with the results of previous studies, and they are very significant. Specifically, respondents were less likely to participate in financial markets for men than for women. The coefficient before the age of the respondents is positive, while the coefficient of age squared is negative, which reflects the inverted U-shaped trend that the probability of household participation in the financial market first increases and then decreases with the increase of age. Married households are more inclined to participate in financial markets than unmarried households, and risk preferences are more inclined to participate in financial market investment than risk averse ones. Households with higher labor income and higher education level have a positive role in promoting financial market participation, which also reflects the wealth effect of households and the promotion effect of personal comprehensive quality, financial knowledge and literacy on financial market participation. With the decline of the level of economic development, the willingness of households to participate in financial markets in the eastern, central and western regions shows a gradual downward trend.

In order to test the robustness of the model and results, logit model is used to examine the regression results of samples under the assumption of logical probability distribution to verify whether the impact of work type and enterprise nature on financial market participation is consistent with the above conclusions. The regression results are shown in Table 4.

Table 4 Logit Regression Results

Explanatory variable	Participate in financial markets	Explanatory variable	Participate in financial markets
Administrative institution	0.03 (0.20)	State-owned collective enterprise	0.60*** (0.08)
Enterprise	0.24 (0.20)	Private enterprise	0.01 (0.10)
Self-employed	-0.51** (0.23)	Foreign-invested enterprise	0.32** (0.16)
Gender	-0.31*** (0.08)	Gender	-0.34*** (0.08)
Age	0.20*** (0.03)	Age	0.19*** (0.03)
Age squared	-0.18*** (0.03)	Age squared	-0.17*** (0.04)
Marriage status	0.32** (0.16)	Marriage status	0.33** (0.16)
Risk preference	0.36*** (0.10)	Risk preference	0.36*** (0.10)
Risk aversion	-0.54*** (0.08)	Risk aversion	-0.52*** (0.08)
Labor income	0.47*** (0.05)	Labor income	0.46*** (0.05)
Education level	0.76*** (0.05)	Education level	0.81*** (0.05)
Region	-0.28*** (0.04)	Region	-0.28*** (0.05)
LR chi²	1197.16	LR chi²	1215.63
Pseudo R²	0.18	Pseudo R²	0.18
Observations	7293	Observations	7293

Note: The standard error is in parentheses, and “***”, “**”, “*” indicate significant levels at 1%, 5%, and 10%, respectively.

It can be seen from the comparison that the significance level and impact effect of work type and enterprise nature on the participation of the household financial market are similar to the above, and the relevant indicators of the control variables are also consistent with the previous results.

5. Conclusions

Based on the data of China Household Financial Service(CHFS) in 2013, this paper investigates the impact of work type and enterprise nature on household participation in financial market behavior. Empirical results show that employees of administrative institutions and enterprises are more inclined to participate in financial market investment. Individual operators show significant adverse psychology to financial market participation. As for the nature of enterprises, the trade unions of state-owned enterprises and foreign-funded enterprises significantly increase the probability of participating in the financial market, while the willingness and probability of employees of private enterprises participating in the financial market are at a low level.

The study also finds that for financial market participation, the effects of control variables are different. Marriage, income level, risk preference, education and regional economic development level have a significant role in promoting household participation in the financial market. Male-headed households will significantly reduce the probability of household participation in the financial market.Household participation in the financial market will show an inverted U-shaped trend with the change of age. Based on the above conclusions, the following policy recommendations are proposed for the current status of Chinese households participating in the financial market:

First, financial availability and household participation should be increased. On the one hand, the unbalanced distribution of financial resources will reduce the probability of public participation in the financial market, on the other hand, it will also cause waste of social resources, aggravate social inequality and imbalance of economic development. Financial resources should be allocated as a whole, the integration of existing financial networks and the construction of new ones should be strengthened, the technical threshold for the use of mobile Internet finance should be lowered, and the dissemination of financial knowledge should be well done so as to enable households to access financial services more conveniently and quickly.

Second, efforts should be made to create high-quality financial products and standardize financial markets. In order to meet the needs of different social groups and financial management, financial products suiTable for different classes are introduced to achieve win-win situation between financial institutions and customers. At the same time, attention should be paid to standardizing financial markets, preventing financial risks, avoiding malicious manipulation of capital markets and various uncertain market shocks, causing great losses to the people and reducing the enthusiasm of households to participate in financial markets.

Third, we should accelerate economic and social development and increase households' social wealth. We should not only eliminate the distinction between high and low in work from traditional concepts, but also balance the distribution of social wealth, increase support for low-income groups, actively build a comprehensive social security service system, improve the stability and sustainability of work.It is necessary to reduce the large income gap and labor intensity difference between industries and regions, so that the people really have the ability and energy to participate in financial market investment, thus sharing the fruits of economic and social progress and financial development.

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