

## The Effects of Occupation on Household Assets Allocation and Risk Preference

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### Abstract

Based on China Household Finance Survey data, this paper uses Probit model and OLS multiple regression to analyze the effects of occupation on the household assets allocation and risk preference. It turns out that professionals located in the financial sector are more risk-loving than other industries. While the occupation has no significant impact on the proportion of holdings of equity assets. Moreover, the regional economic advantage, family assets, household income, investor's preference and education level all have positive effects on household assets allocation.

**Key words:** Household financial decision; Risk attitude; Occupation

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### INTRODUCTION

With the booming of financial industry and the improvement of people's financial knowledge, instead of putting all the money into the bank to charge interest, more and more people tend to focus on risky assets and began to be active in the stock market. The household financial decision has become one of the most important questions concerned by most families (Guiso & Sodini, 2013).

There are already plenty of researches about household financial decision. Wage income, asset accumulation,

incomplete market, preferences, education level, real estate, investor psychological characteristics and social factors all can affect the family portfolio (Rosen, Tsai, & Downs, 2003; Brighetti & Lucarelli, 2013; Li, 2006). Family financial asset allocation involves both riskless and risky financial assets, and the proportion of holdings of risky assets is directly related to people's attitudes towards risk. In the whole factors that influence people's attitudes towards risk, the most direct factors are the personal factors. The psychological factors rooted in national culture can affect the family portfolio, while the individualism has a significantly positive effect on financial risk taking (Breuer, Riesener, & Salzmann, 2014). Charles et al. related individuals' risk aversion, prudence, and temperance levels to demographics and financial decisions and found out that the majority of individuals' decisions are consistent with risk aversion, prudence, and temperance (Noussair, Trautmann, & Van de Kuilen, 2013).

Based on the previous literature, the increasing of financial knowledge can promote family participation in financial markets and increase the allocation of households in risky assets, especially equity assets. With the accumulation of investment experience, the family investment in risk assets, especially the proportion of equity assets will increase (Yin, Song, & Wu, 2014). Considering that those who work in the financial sector may have more financial knowledge and investment experience than those working in other industries, is the financial industry practitioners having a higher enthusiasm for participating in the stock market? Moreover, as a significant social attributes, is the occupation a factor that can affect the risk attitude of household financial decision? Or the investors' occupation has a correlation with the investors own risk attitude? Therefore, to answer those two questions, this paper distinguishes investors by their occupations to examine its participation in the family equity market and the impact of financial asset

allocation. What's more, the occupations are divided into two parts: the job in government or public institutions and the job in private enterprises which to further explore the stock market participation and financial asset allocation differences of those two groups. Though studying the investment behavior of different occupational families from the micro perspective can have significant help to examine the discrimination of financial market and improve the rules of the market.

## 1. METHODS

### 1.1 The Model

This paper uses the Probit model to analyze the effects of the occupation (whether the occupation is in the financial industry or the work unit is the government departments) on the risk attitude of household. And then OLS multiple regression model is used to analyze the impact of these two factors on the proportion of family equity assets to financial assets.

The Probit model is (1):

$$Y=1(\alpha\text{Finance}+\beta\text{Public\_Institution}+X\gamma+\mu>0). \quad (1)$$

Where the value of  $Y$  equals 1 or 0, 1 indicates that the investor is risk-seeking, while 0 indicates that the investor is risk-averse; Finance equals 1 indicates the sample's work is in financial sector, while 0 is the opposite; Public\_Institution equals 1 indicates the sample's work is in government or public institutions, while 0 is the opposite.  $X$  is the control variable, including control variables of family feature variables and area variables.

The OLS multiple regression model is (2):

$$Y=\alpha\text{Finance}+\beta\text{Public\_Institution}+\lambda\text{Risk\_Preference}+\theta\text{Risk\_Averse}+X\gamma+\mu. \quad (2)$$

Where  $Y$  represents the proportion of household equity assets to financial assets. The meaning of Finance, Public\_Institution and  $X$  is the same with (1).

### 1.2 Data Processing

The data used in this study is from the first round of

China Household Finance Survey in 2011 carried out by Southwestern University of Finance and Economics. The sample covers 25 provinces, 80 cities and counties, 320 communities (villages), received 8,438 families' micro-data. The main information collected by this survey includes: housing assets; financial wealth; liabilities and credit constraints; income; consumption; social security and insurance; intergenerational transfer payments; demographic characteristics and employment.

Finance and Public\_Institution are as the virtual variables, their value equals 1 or 0. 1 indicates the sample's work is in the financial sector or government institutions, while 0 indicates the opposite. According to the collected information, the financial assets in a family mainly include: risk assets, cash, stock account cash, government bonds, demand deposits and time deposits. Risk preference is as the first dependent variable in the Probit model. The risk preference indicates the attitude of the respondents to the risk. If the risk preference is 1, the respondents are risk-seeking; if the risk is 0, the respondents are neutral or risk-averse. The proportion of household equity assets to financial assets (Percentage of stock) is the second dependent variable in the OLS multiple regression model.

Based on literatures, the control variables selected in this paper are included household income asset variable which includes salary of householder, household net assets and whether to own housing, household-characteristics variables (gender, age, duration of education, marital status) and regional-characteristics variables (per capita GDP).

The statistical characteristics of those variables are in table1. The proportion of households participating in the stock market was 17.9%, and the proportion of families with risk aversion was 53.4% which indicated that the China's stock market participation rate is low. The stock assets accounted for only 9.3%, the proportion of household equity assets to financial assets is also very low. The average age of heads of household is 46, and the average duration of education is 12 years.

**Table 1**  
**The Statistical Characteristics of Variables**

| Variable            | N    | Mean        | SD          | Min      | Max     |
|---------------------|------|-------------|-------------|----------|---------|
| Percentage of stock | 2099 | 0.093092786 | 0.241876952 | 0        | 1       |
| Finance             | 2099 | 0.040057225 | 0.196093456 | 0        | 1       |
| Public institution  | 2099 | 0.32253454  | 0.467446265 | 0        | 1       |
| Salary of master    | 2099 | 28117.00476 | 33816.26072 | 1        | 540000  |
| Net asset           | 2099 | 111243.5884 | 489836.9319 | -2990710 | 9220143 |
| Age                 | 2099 | 46.1786565  | 9.978729255 | 24       | 96      |
| Gender              | 2099 | 0.583134826 | 0.493040161 | 0        | 1       |
| Education           | 2099 | 11.89597315 | 3.672500629 | 0        | 22      |
| House               | 2099 | 0.059552168 | 0.236655249 | 0        | 1       |
| Risk loving         | 2099 | 0.25440686  | 0.393451633 | 0        | 1       |
| Risk neutral        | 2099 | 0.397332063 | 0.472136473 | 0        | 1       |
| Risk adverse        | 2099 | 0.53406384  | 0.499279189 | 0        | 1       |
| Married             | 2099 | 0.851727447 | 0.355954548 | 0        | 1       |
| GDP per capita      | 2099 | 48036.7637  | 20361.30521 | 16117    | 86496   |

## 2. RESULTS

### 2.1 The Correlation of Occupation and Risk Preference

The result of Model (1) is in Table 2, the column (1) is the regression which is performed for all households after screening, the column (2) is the regression which is performed for only the family involved in the stock market. By comparison, before and after eliminating families who are not involved in the stock market, there are no significant changes in the variables of the Finance and Public\_institution variable. Therefore, the model can be seen as robust.

By controlling all household-characteristics variables and regional economic environment factors, the probability of risk loving preference whose occupation are in the financial sector is significantly greater than non-financial industry residents. Its marginal effect is 0.358, which is significant at 5% confidence level. While for those the work unit belongs to the government departments or institutions the impact is not very significant.

In addition, the impact of other control variables on risk attitudes can also be analyzed through this result. Among them, the gender variable is very significant, its marginal effect is 0.472, 1% level significantly, which shows that men have a higher risk reference than women. As for the years of education, the marginal effect is 0.053, 1% level significantly, indicating that with the continuous improvement of education, people have a positive attitude to the risk.

**Table 2**  
**The Result of Model (1)**

|                    | (1)          | (2)         |
|--------------------|--------------|-------------|
| Risk preference    |              |             |
| GDP per capita     | -0.00000253* | -0.00000479 |
|                    | (-1.49)      | (-1.37)     |
| Net asset          | 9.66e-08*    | -5.49e-08   |
|                    | (1.54)       | (-0.62)     |
| Salary of master   | -0.000000317 | -0.00000101 |
|                    | (-0.31)      | (-0.74)     |
| Gender             | 0.472***     | 0.553***    |
|                    | (6.62)       | (3.72)      |
| Age                | -0.0289      | 0.00247     |
|                    | (-1.05)      | (0.02)      |
| Education          | 0.0530***    | 0.0596**    |
|                    | (4.69)       | (2.01)      |
| Married            | -0.0554      | 0.182       |
|                    | (-0.41)      | (0.49)      |
| Finance            | 0.358**      | 0.449*      |
|                    | (2.33)       | (1.63)      |
| Public institution | 0.0263       | 0.239*      |
|                    | (0.34)       | (1.59)      |
| House              | 0.268**      | 0.663**     |
|                    | (1.97)       | (2.14)      |
| _Cons              | -0.653       | -0.865      |
|                    | (-1.04)      | (-0.38)     |
| N                  | 2065         | 373         |

### 2.2 The Correlation of Occupation and Household Asset Allocation

The results of Model (2) is in Table 3, the column (1) is the regression which is performed for all households after screening, the column (2) is the regression which is performed for only the family involved in the stock market. By comparison, before and after eliminating families who are not involved in the stock market, there are no significant changes in the variables of the Finance and Public\_institution variable. Therefore, the model can be seen as robust.

**Table 3**  
**The Result of Model (2)**

|                     | (1)            | (2)          |
|---------------------|----------------|--------------|
| Percentage of stock |                |              |
| GDP per capita      | 0.000000665**  | 0.000000447  |
|                     | (2.56)         | (0.54)       |
| Net asset           | 5.92e-08***    | -1.54e-09    |
|                     | (5.24)         | (-0.07)      |
| Salary of master    | 0.000000522*** | -0.000000349 |
|                     | (3.08)         | (-1.05)      |
| Gender              | -0.0298***     | -0.0368      |
|                     | (-2.75)        | (-1.02)      |
| Age                 | 0.0146***      | 0.00831      |
|                     | (3.66)         | (0.37)       |
| Education           | 0.0116***      | -0.00991     |
|                     | (6.86)         | (-1.39)      |
| Married             | 0.0318*        | 0.0196       |
|                     | (1.44)         | (0.22)       |
| Risk seeking        | 0.0798***      | 0.00958      |
|                     | (5.41)         | (0.23)       |
| Risk averse         | -0.0161*       | -0.0526      |
|                     | (-1.34)        | (-1.19)      |
| Finance             | -0.0126        | -0.103       |
|                     | (-0.48)        | (-1.55)      |
| Public institution  | -0.00969       | -0.0112      |
|                     | (-0.81)        | (-0.31)      |
| House               | -0.0422*       | -0.0405      |
|                     | (-1.84)        | (-0.53)      |
| _cons               | -0.494***      | 0.366        |
|                     | (-5.30)        | (0.73)       |
| N                   | 2067           | 374          |

By controlling all household-characteristics variables and regional economic environment factors, it turns out whether work in the financial sector or government department or institution has no significant effects on the household asset allocation. In addition, as to the GDP per capita, it is significant at the 5% level which indicates that the proportion of stock assets held by families living in the better economic environment is greater than others. While the net asset and income of household also have a significant positive impact on the participation in the stock market. The increase in age accompanied by the accumulation of assets, the family may increase the stock investment. Education also has a positive effect on the household asset allocation. As to the risk of seeking

variable, the marginal effect is 0.0798, significant at the 1% level which is positively related to the likelihood of participation in the stock market.

## DISCUSSION

Base on the data of China Household Finance Survey, this paper analyzed the correlation between the occupation and the risk preference and the correlation between the occupation and the household assets allocation through Probit and OLS regression models. According to the results, household leaders who work in financial sectors tend to have preference of risk seeking, while household leaders who work in government department or public institute tend to have preference of risk adverse. Both have no significant effects on the family assets allocation. The improvement of the regional economy, the level of education, the accumulation of family assets, and the preference for risk all have a positive effect on the holding of stock assets. However, the appropriate tool variables are not envisioned, the two models may exist endogenous which will need further improvement by two-stage least squares method.

## REFERENCES

- Guiso, L., & Sodini, P. (2013). Household finance: An emerging field. *Social Science Electronic Publishing*, 2, 1397-1532.
- Rosen, A. B., Tsai, J. S., & Downs, S. M. (2003). Variations in risk attitude across race, gender, and education. *Medical Decision Making*, 23(6), 511-517.
- Brighetti, G., & Lucarelli, C. (2013). Does gender influence risk attitude and ambiguity aversion? When psycho-physiological measurements contradict social beliefs. SSRN. Retrieved 2013 May 15 from <http://ssrn.com/abstract=2265502>
- Li, T. (2006). Social interaction and investment choice. *Economic Research Journal*, (08), 45-57.
- Breuer, W., Riesener, M., & Salzmann, A. J. (2014). Risk aversion vs. individualism: What drives risk taking in household finance? *The European Journal of Finance*, 20(5), 446-462.
- Noussair, C. N., Trautmann, S. T., & Van de Kuilen, G. (2013). Higher order risk attitudes, demographics, and financial decisions. *Review of Economic Studies*, 81(1), 325-355.
- Yin, Z. C., Song, Q. Y., & Wu, Y. (2014). Financial literacy, trading experience and household portfolio choice. *Economic Research Journal*, 49(4), 62-75.