

The Influence of Different Demographic Factors on Consumers' Financial Literacy in China

Yuanting Chen^{1,a,*}, Shan Huang^{2,b}

¹Monash Business School, Monash University, Melbourne, Australia

²Royal Russell School, London, United Kingdom

a. 1307009790@qq.com, b. 2512620432@qq.com

*corresponding author

Abstract: Because of the impact of the COVID-19 pandemic, China's economy and financial markets have been volatile in recent years. This necessitates using financial literacy by Chinese customers to handle their assets effectively and avoid losses. This essay aims to investigate the effect of various demographic parameters on the financial quality of Chinese consumers. The 2019 China Consumer Finance Survey questionnaire yielded 13,000 data points for this article. STATA was applied to screen twelve independent variables associated with financial quality, and a multiple linear regression model was utilized to determine the association between each variable. The findings revealed a strong relationship between age, gender, income, education level, the proportion of household members with sickness, consumer risk preference, rural domicile, family size, self-employment and house ownership with financial quality, except that there was no significant correlation between marital status and consumer financial quality. The results indicated a significant correlation between age, gender, income, education level, and the proportion of household members with illness. These findings imply that different demographic factors influence Chinese consumers' financial quality to varying degrees. As a result, each consumer makes different decisions about managing assets and avoiding risk.

Keywords: China, customers, financial literacy, demographic factors

1. Introduction

Financial literacy is the capacity to use skills and expertise to manage assets efficiently for a lifetime of financial health to the President's Advisory Council on Financial Literacy [1].

Financial literacy can help residents make better financial decisions, manage their financial affairs effectively to avoid unnecessary costs and improve their standard of living. Furthermore, in recent years, significant negative impact on the Chinese economy and financial markets due to the COVID-19 pandemic; therefore, people need to apply financial knowledge to manage their property and make wise decisions to avoid unnecessary losses, which reinforces the importance of financial literacy.

This paper aims to analyze the influence of different demographic factors on Chinese consumers' financial literacy and determine their relationship.

China Consumer Finance Survey (CHFS) conducted a nationwide sampling project investigating the financial literacy of Chinese households. Based on the CHFS database, we collected 13,000 val-

id samples and identified twelve variables related to financial quality through the STATA model. In addition, we used a multiple linear regression analysis (MRA) model and hypothesis tests to find the correlation between the independent variables and financial quality.

The findings indicate no meaningful relationship between financial standing and marital status. Whether a consumer is married or not has little to do with his/her financial quality. Age, gender, income, education level, risk-aversion, home ownership and self-employment were all significantly and positively correlated with consumers' financial quality. This means that a male risk-averse consumer's financial quality improves as he gets older, has a higher level of education, is self-employed and has a high annual income, and owns his property. On the contrary, the number of family illnesses, risk aversion, rural residence, and the family size was significantly and negatively correlated with consumers' financial quality. This suggests that a risk-averse consumer's financial quality is worse when he lives in a rural location, has a larger family size, and has a more significant number of sick dependents in the household.

The advantage of this article is that it systematically identifies the effects of multiple variables on Chinese consumers' financial quality, which can be used as a reference for researchers doing related studies later. Among the other related literature we found, most of the articles only studied about three independent variables, which is not comprehensive. Furthermore, using the multiple regression model we developed, it is possible to budget the financial quality status of different customers, estimating how many consumers can manage their assets wisely and prevent property losses during stormy times in China's financial markets.

A review of the literature is shown in Section 2. Our data sources and the corresponding model design are described in Section 3. The empirical findings and pertinent analysis are presented in Section 4. Finally, the conclusion is in Section 5.

2. Literature Review

Lusardi and Mitchell made three essential inquiries for an exploratory financial education module in the 2004 US Wellbeing and Retirement Study [2]. Moreover, a joint effort with groups from numerous countries has explored how the 2004 HRS financial education questions work in the worldwide economy [2]. First, per late overall examinations, monetary lack of education is unavoidable in exceptionally evolved and dynamic economies [2]. Second, more youthful and seasoned individuals are less monetarily proficient than moderately aged individuals, yet those with more elevated levels of instruction are all the more monetarily responsible [2]. Third, females are less monetarily proficient than males [2].

Li, Mutchler, Mill operator, Xiao and Exhaust Seeley concentrated on the connection between three state-level context-oriented qualities — tertiary instructive fulfilment, neediness predominance, and Web infiltration — and individual monetary education from a miniature large-scale perspective on the social climate and human processes [3]. They utilized information from the American Community Survey to examine context-oriented factors and the Comprehension America Study for people matured 50 and more established to check monetary literacy [3]. The creators found that state-level professional instructive status and individual monetary proficiency did not connect, that state-level Web entrance was emphatically related to individual monetary education, and that state-level destitution inescapability was adversely associated with individual monetary education utilizing cross-sectional staggered relapse models [3].

In Ghana, Twumasi, Jiang, Adhikari, Gyamfi and Asare research the elements that impact the monetary proficiency of rustic residents [4]. The IV-Tobit model was utilized to evaluate the elements influencing rustic homestead families' monetary proficiency utilizing a get sectional essential informational collection gathered through interview timetables and surveys from April to June 2020

in provincial Ghana [4]. The outcomes show that many people living in country regions lack monetary literacy [4]. The results of the econometrics model showed that financial and segment factors of the respondents, like orientation, pay, age, and schooling, considerably affect monetary literacy [4]. Again, people who face challenges and consume instructive media are bound to be monetarily savvy [4].

A past examination from Bennett, J.S., Boyle, James and Bennett, D.A. has laid out the corresponds of well-being and monetary proficiency in more seasoned adults [5]. They took a gander at 556 senior residents from the Rush Memory and Aging Project, a ceaseless longitudinal clinical-neurotic examination of common maturing-related constant diseases [5]. They add to the correspondence of actual wellbeing, psychological well-being and monetary literacy [5]. They found that old grown-ups with better financial education might have better physical and mental health [5].

Struckell, Patel, Ojha and Oghazi concentrated on the connection between independent work and monetary quality [6]. They utilized overview information from the 2015 and 2018 National Monetary Capacity Study, which included around 500 members from each U.S. state and the Locale of Columbia [6]. A different direct relapse model investigation discovered that for men, ladies and not white, individuals with higher monetary quality were bound to go into business as a rule, albeit the relationship was more articulated among women [6].

The concentration by Aren and Zengin examined the effect of financial education and general gamble discernment on monetary investment [7]. Information was gathered through the mail and eye-to-eye overviews from a sum of 94 respondents living in Istanbul and volunteering [7]. Risk craving is surveyed utilizing the fourteen inquiries from Pasewark and Riley, a one-layered scale and the 5-point Likert scale. Monetary proficiency is also estimated to involve a two-layered scale [7]. The scientists demonstrate that individuals with higher monetary proficiency lean toward moderately more elevated levels of risk [7].

Gupta and Hanagandi have previously focused on India's socioeconomics on monetary literacy on, marital status, yearly pay, and family size [8]. The chi-square test was utilized to break down information from 385 people with saving ledgers who matured between 21 and 65 and lived in the North Karnataka regions of Dharwad, Belagavi, Vijayapur, and Bagalkot [8]. It tends to be displayed from the consequences of the numerous relapse model that there is no association between marital status and monetary literacy [8]. Moreover, individuals' monetary education ascends alongside their yearly income [8]. Family size and monetary proficiency are connected, and families with two to four individuals will more often than not have moderately high monetary quality [8].

3. Data Resources and Research Design

3.1. Data Resources

The information from the CHFS in 2019 is both broadly and locally delegated, and they incorporate 34,643 families from an example of 170 urban communities, 345 districts, 1360 private town councils, and 29 territories (independent areas and regions straightforwardly under the public government) [9]. Therefore, we only use the data from the fifth section of the questionnaire—which asks about consumers' comprehension of financial literacy and risk attitudes—to conduct the study. Twelve independent factors that might be connected to financial quality were found using the STATA programme for data screening. Missing data were removed from each independent variable to get a final sample of 13,000 data.

3.2. Research Design

An MRA model is used in this research. Using multiple regression analysis, researchers can assess the strength of the association between an outcome and several predictor variables and the signifi-

cance of each predictor to the relationship. Commonly, the impact of other predictor variables is statistically overlooked [10].

The hypothesis tests are carried out to assume whether various independent variables affect financial literacy. In our research, null hypotheses mean no relationship between each independent variable and financial literacy. Alternative hypotheses represent a relationship between each independent variable and financial literacy. A significant level of 0.05 or 5% is used. If the p-value is more extensive than 0.05 when compared to the significant level, we do not reject the null hypothesis; otherwise, we do not reject the alternate hypothesis. Based on the literature review, many researchers apply the MRA model and hypothesis tests to find out the relationships between independent variables and dependent variables; for example, Gupta and Hanagandi use hypothesis testing to find out if there is an association between different demographic factors and independent variables and financial quality [8]. Struckell, Patel, Ojha and Oghazi used theoretical analysis to find the relationship between financial quality and self-employment and used an MRA model to confirm [6]. Li, Mutchler, Miller, Xiao and Tucker-Seeley hypothesize that people's financial quality is related to their education level, regional poverty rate and Internet penetration and use an MRA model to prove whether the hypothesis holds [3].

Here is the specification of the model we used:

$$finance_i = \beta_0 + \beta_1 age_i + \beta_2 gender_i + \beta_3 unhealth_i + \beta_4 marriage_i + \beta_5 edu_i + \beta_6 risklove_i + \beta_7 riskadverse_i + \beta_8 rural_i + \beta_9 size_i + \beta_{10} house_i + \beta_{11} bussiness_i + \beta_{12} lnincome_i + \varepsilon_i \quad (1)$$

According to the survey from CHFS, this MRA model uses thirteen variables. Table I displays the symbols for these variables utilised in the multiple regression function and their respective definitions.

Table 1: The symbols and explanation of each variable.

Variable	Symbol	Explain
Financial literacy	finance	Respondents' financial literacy
Age	age	Respondent's age
Gender	gender	Male is 1, female is 0
Unhealthy rate of family members	unhealth	Number of patients in the family/number of family population
Marital status	marriage	Unmarried cohabitation is 1, and another married cohabitation is 0
Level of education	edu	Respondent's education levels
Risk appetite	risklove	High risk or slightly high-risk items are 1 and others are 0
Risk aversion	riskadverse	1 for slightly low-risk or no-risk projects and 0 for others
Rural household registration	rural	Rural household registration is 1, others are 0
Family size	size	Respondent's family size
Do you own a house	house	Owning housing is 1, otherwise, it is 0
Is it an industrial and commercial self-employed	business	Yes is 1, no is 0
Total household income	lnincome	The logarithm of total household income

a. 1. Never went to school 2. Primary school 3. Middle school 4. High School 5. Technical secondary school/vocational high school 6. JuniorCollege/Vocational College 7. Undergraduate 8. Master 9. Doctor Data sources: CHFS 2019

4. Empirical Result

4.1. Descriptive Statistics

TABLE II shows descriptive statistics of thirteen variables from a set of 13,000 sample, including mean, standard deviation, minimum and maximum.

Table 2: The descriptive statistics of each variable.

Variable	Obs	Mean	Std.Dev.	Min	Max
finance	13,000	0.439	0.574	-0.885	4.854
age	13,000	47.085	12.905	18	99
gender	13,000	0.525	0.499	0	1
unhealth num	13,000	0.052	0.156	0	1
marriage	13,000	0.922	0.269	0	1
edu	13,000	3.932	1.736	1	9
risk love	13,000	0.078	0.268	0	1
risk adverse	13,000	0.614	0.487	0	1
rural	13,000	0.578	0.494	0	1
size	13,000	3.559	1.506	1	15
house	13,000	0.904	0.294	0	1
business	13,000	0.196	0.397	0	1
lnincome	13,000	11.031	1.316	0.140	16.311

Data sources: CHFS 2019

4.2. Regression Analysis of Influencing Factors on Financial Literacy

Table 3: Regression results of influencing factors of financial literacy. (OLS)

	Coef.	St.Err	t-value	p-value
finance				
age	0.004	0.000	9.81	0.000
gender	0.018	0.009	1.97	0.049
lnincome	0.042	0.004	11.51	0.000
edu	0.069	0.004	18.58	0.000
unhealth	-0.140	0.030	-4.66	0.000
marriage	-0.013	0.021	-0.61	0.541
risklove	0.476	0.023	20.96	0.000
riskadverse	-0.152	0.011	-14.29	0.000
rural	-0.079	0.011	-7.28	0.000
size	-0.008	0.003	-2.63	0.009
house	0.034	0.017	2.06	0.040
business	0.047	0.011	4.22	0.000
_cons	-0.402	0.050	-8.02	0.000
R-squared	0.194		Number of obs	13000
F-test	172.621		Prob > F	0.000

t statistics in parentheses, * p < 0.1, ** p < 0.05, *** p < 0.01, Data sources: CHFS 2019

4.3. Empirical Results

In Table III, the regression coefficient of age is 0.004, which is significantly positive at 5%. The increase in age may help to improve financial literacy. This result is similar to Lusardi and Mitchell and Twumasi, Jiang, Adhikari, Gyamfi and Asare[2,4]. However, we do not carefully disaggregate the effects of different age groups on financial literacy, and only present a comprehensive result.

The orientation coefficient is 0.018, which is essentially sure at the degree of 5%, showing that the financial education of men is moderately higher than that of ladies, which is equivalent to Lusardi and Mitchell and Twumasi, Jiang, Adhikari, Gyamfi and Asare[2,4].

The coefficient of income is 0.042, which is significantly positive at the level of 5%, indicating that the higher the total income, the higher the financial literacy the resident has. This result evidences the research from Li, Mutchler, Miller, Xiao and Tucker-Seeley [3].

The relapse coefficient of the long periods of edu is 0.069, at 5%, showing that instruction is emphatically connected with monetary proficiency. The higher the training, the higher the monetary proficiency. This outcome is equivalent to Twumasi, Jiang, Adhikari, Gyamfi, Asare, Lusardi, and Mitchell; however, not Li, Mutchler, Mill operator, Xiao, and Exhaust Seeley because this article centres around college education rather than various degrees of education [2-4].

The regression coefficient of unhealthy is -0.140, which is significantly negative at the level of 5%, indicating that the higher the unhealthy rate of the family, the lower the financial literacy, which is the same as Bennett, J.S., Boyle, James and Bennett, D.A. [5].

The relapse coefficient of marriage is - 0.013. However, it neglects to reach a critical level, demonstrating that marriage may not influence monetary proficiency. Nevertheless, it is reliable to Gupta and Hanagandi's study [8].

The relapse coefficient of risk love is 0.476, which is altogether sure at the degree of 5%, demonstrating that the monetary proficiency of hazard devotees is higher than that of different inhabitants; The relapse coefficient of risk-averse is - 0.152, which is essentially negative at the degree of 5%, showing that the financial education of chance averses is by and large lower than that of different occupants. These outcomes are equivalent to Aren and Zengin's findings [7].

The regression coefficient of rural is -0.079, which is significantly negative at the level of 5%, indicating that the financial literacy of residents holding agricultural household registration is significantly lower than that of other households, which is similar to what Twumasi, Jiang, Adhikari, Gyamfi and Asare found [4].

The regression coefficient of the size is -0.008, which is significantly negative at 5%, indicating that the more the family population, the lower the financial literacy. Compare with Gupta and Hanagandi's study [8], the results were slightly different. They also point out that family size and financial quality are related, but do not prove that the larger the family size, the lower the financial quality. According to their research process, they divided household size into four categories, single, 2 to 4 persons, 5 to 7 persons and more than 7 persons, except for the 2-to-4-person group where the number of people with low financial literacy was lower, and the other three groups where the number of people with low financial literacy was higher [8].

The regression coefficient of the house is 0.034, which is significantly positive at the level of 5%, indicating that the financial literacy of residents with housing is significantly higher than that of residents without housing. The findings corroborate Barnard, C.R. et al. research, which points out that people with low financial quality are prone to make poor financial decisions that harm homeownership [11].

The business coefficient is 0.047, which is significantly positive at the level of 5%, indicating that the financial literacy of individual merchants is significantly higher than that of non-individual merchants. This result is consistent with Struckell, Patel, Ojha and Oghazi's findings [6].

5. Conclusions

The study aims to determine the influence of various demographic factors on consumers' financial literacy in China. To accomplish the research objective, a sample of 13,000 is taken from CHFS using the STATA programme, and the MRA model and hypothesis tests are used. In addition, the empirical findings show that eleven demographic characteristics, except married status, have a significant link with financial literacy. As an illustration, there was a strong positive link between consumers' financial literacy and traits, including age, gender, income, education, risk aversion, home ownership, and self-employment. Contrarily, there was a strong negative correlation between consumers' financial literacy and their family size, risk aversion, and a number of chronic illnesses in the household. The study's findings allow for the inference of various financial characteristics of Chinese consumers, which will aid researchers in investigating how Chinese consumers can manage their assets, such as real estate, savings, pension plans, stock purchases, etc., under the COVID-19 epidemic.

References

- [1] *President's Advisory Council. (2008) President's Advisory Council on Financial Literacy. https://www.academia.edu/6708140/Presidents_Advisory_Council_on_Financial_Literacy_2008_Annual_Report_to_the_President*
- [2] *Annamaria, L. and Mitchell, O.S. (2011) Financial Literacy around the World: an Overview. Journal of Pension Economics and Finance, 10(4): 497–508.*
- [3] *Li, Y., Mutchler, J.E., Miller, E.A., Xiao, J.J., and Tucker-Seeley, R. (2022) Space, Context, and Human Capital: A Micro–Macro Perspective on the Social Environment and Financial Literacy in Later Life." Popul Res Policy Rev, 41: 1385–1404.*
- [4] *Twumasi, M.A., Jiang, Y.S., J., Adhikari, S., Gyamfi, C.A., Asare, I. (2022). Financial literacy and its determinants: the case of rural farm households in Ghana. Agricultural Finance Review., 82(4): 641–656.*
- [5] *Bennett, J.S., Boyle, P.A., James, B.D. and Bennett, D.A., (2012) Correlates Of Health And Financial Literacy In Older Adults Without Dementia. BMC Geriatrics, 12: 1-9.*
- [6] *Struckell, E.M., Patel, P.C., Ojha, D., Oghazi, P. (2022) Financial Literacy and Self Employment-The Moderating Effect of Gender and Race. Journal of Business Research, 139: 639-653.*
- [7] *Aren, S., Zengin, A.N. (2016) Influence of Financial Literacy and Risk Perception on Choice of Investment. Procedia Social and Behavioral Sciences, 235: 656-663.*
- [8] *Gupta, P.K., Hanagandi, S.S. (2022) Impact of Demography on Financial Literacy. SDMIMD Journal of Management, 13: 81-96.*
- [9] *Survey And Research Center For China Household Financial, (2022). Data center data application. <https://chfs.swufe.edu.cn/sjzx/sjsq.htm>*
- [10] *Ganesh S. (2010) Multivariate Linear Regression. In: Penelope, P., Eva B. and Barry M. (Eds.), International Encyclopedia of Education. Elsevier Science., New Zealand. pp.324-331*
- [11] *Barnard, C.R., Billing, J., Brotherston, D., Jeffery, T., Mansell, P. and Wright, J. (2021) Money, Knowledge and Power. British Actuarial Journal, 26: 1-26.*