# The Impact of Financial Literacy on Household Consumption: Empirical Analysis Based on CHFS2019 Survey Data

# Pan Tianpei

School of Economics and Management, Guangxi Normal University, Guilin, China ptp@stu.gxnu.edu.cn

Abstract: Improving residents' financial knowledge level and optimizing the effectiveness of household financial asset portfolio are of great practical significance for comprehensively promoting consumption, steadily expanding domestic demand and constructing a new development pattern of "double circulation" proposed in the Outline of the 14th Five-Year Plan. Based on residents' financial knowledge level, this paper uses the micro survey data of China Household Finance Survey (CHFS) in 2019 to empirically analyze how residents' financial knowledge level affects household consumption expenditure by affecting the effectiveness of household financial asset portfolio.

Keywords: Financial Literacy; Household Consumption; Effectiveness of Financial Asset Portfolio

# 1. Introduction

The outline of the 14th Five-Year Plan also puts forward the key points of comprehensively promoting consumption, enhancing financial inclusion and enhancing the ability of financial services to serve the real economy. The driving force of financial services for the real economy lies in innovating more financial products and services that directly connect to the real economy. A considerable part of these financial products and services are ultimately provided to resident households. Based on the requirements of enhancing financial inclusion, the financial knowledge level of resident households will be gradually improved and they can make better use of these financial products and services. Finally, it will promote the growth of household consumption expenditure under the role of wealth effect of assets, which is also conducive to the steady expansion of domestic demand and the construction of a new development pattern of "double circulation".

The rational use and planning of household wealth cannot be separated from financial knowledge, which to a large extent determines the depth of residents' participation in the financial market and the level of managing financial assets.<sup>[1]</sup> According to the Survey and Analysis Report on Consumer Financial Literacy in 2019, the average score of the national consumer Financial literacy index is only 64.77 points, indicating that the financial knowledge level of Chinese households is at a relatively low level. In addition, according to the Report on the Wealth and Health of Urban Households in China during the same period, the average financial assets of urban households in China account for only 20.4% of the average total assets, which is also at a low level.<sup>[1]</sup> It is obvious that the level of financial knowledge and the current situation of financial asset allocation of Chinese residents are not conducive to the expansion of domestic demand or the growth of consumption expenditure. Table 1 lists the household consumption rate of some major countries in the world in 2019. The household consumption rate is the proportion of household consumption in GDP. It can be seen that the household consumption rate in China is seriously low, far lower than not only the major developed countries in the world, but also many developing countries with a population of more than 100 million. Table 2 lists China's household consumption rate over the years from 2010 to 2019. With the gradual implementation of the policy of "housing not speculation" by the Central Economic Conference, Chinese residents are currently in the transition period from housing assets to financial assets, against this background, to clarify the relationship between family financial knowledge level, the effectiveness of family financial asset portfolio and family consumption. It is of great practical significance for the comprehensive promotion of consumption, the steady expansion of domestic demand and the construction of a new development pattern of "double circulation" proposed in the Outline of the 14th Five-Year Plan.

Countries	America	Germany	Korea	Brazil	India	South Africa	Indonesia	Russia	China
Consumption rates (%)	68	52	49	65	60	51	60	58	39

Table .	1:	Consum	ption	rates	of	residents	in	major	countrie	5 0	of the	world	(2019	9.
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Table 2: Consumption rate of Chinese residents over the years (2010-2019).

Years	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Consumption rates (%)	34.7	35.3	35.5	35.7	36.4	37.6	38.7	38.6	38.5	39.1

In fact the research literature about household consumption of our country is already quite rich. Most of the previous studies are divided into two categories. One is the microeconomic level, which considers the factors affecting household consumption from the perspectives of the preservation and appreciation of household wealth, the allocation of financial assets and the family life cycle. The other is at the macroeconomic level, which considers the factors affecting household consumption from the perspectives of digital economy, inclusive finance and government policies. However, the existing literature on the impact of residents' financial knowledge on household consumption only focuses on the role of household financial asset structure<sup>[2]</sup>, consumer credit<sup>[3]</sup> and commercial insurance<sup>[3]</sup>, etc. At present, there is still a lack of literature that combines financial knowledge, financial asset portfolio effectiveness and household consumption. Based on this, this paper uses the micro survey data of China Household Finance Survey (CHFS) in 2019 to conduct empirical analysis, and explores how the level of household financial knowledge affects the effectiveness of financial asset portfolio and then affects household consumption expenditure.

Compared with the existing research, this paper takes the 2019 national Household Finance Survey as a sample to examine the role of financial asset portfolio effectiveness as a mediating variable in the impact of residents' financial literacy on household consumption expenditure. Therefore, this paper further enriches the literature on China's household financial behavior and residents' consumption level, and provides a feasible path for the steady increase of property income of residents.

#### 2. Literature review and theoretical analysis

The research content of this paper is mainly related to the following two categories of literature:

The first type is the study on the impact of residents' financial knowledge or financial literacy on household financial asset portfolio. Portfolio theory in the narrow sense was first proposed by Markowitz in 1952, which includes mean-variance analysis method and portfolio efficient frontier model. The theory argues that investors' risk preference and financial literacy are important factors affecting investment behavior. However, when it comes to the study of household financial asset portfolio, in recent years, more domestic scholars are more interested in exploring the impact of other characteristics of the household, such as educational level, asset size and demographic structure, on the household financial asset portfolio. Noctor et al.<sup>[4]</sup> first clarified the concept of financial knowledge and defined financial knowledge as the ability of individuals to have a relatively correct cognition and make decisions in the use and management of financial assets. Finally, the category of financial literacy is defined. Lusardi and Mitchell pointed out that financial literacy is a quality based on individuals' ability to collect targeted financial information and make reasonable financial asset allocation plans independently or with the assistance of financial planners, so as to achieve a reasonable asset and liability structure.<sup>[5]</sup> Domestic scholars also have some new understandings of financial literacy when conducting research on financial literacy. Yin Zhichao et al believed that<sup>[6]</sup> Financial literacy is the ability to initially master financial knowledge and effectively allocate financial assets of individuals or families in financial practice, so as to achieve financial security of individuals and families in the life cycle. Wu Kun and Li Hongbo believed that most of the existing studies pointed out that the subjective concept and objective ability of financial literacy were not exactly the same, so they divided financial literacy into subjective financial literacy and objective financial literacy.<sup>[7]</sup> On the impact of financial knowledge or financial literacy on financial asset portfolio, scholars at home and abroad have done a lot of research from both theoretical analysis and empirical analysis. Murendo and Mutsonziwa pointed out that financial knowledge can improve the level of investors' financial information acquisition and extraction,<sup>[8]</sup> thus expanding the breadth of their participation in the financial market, enriching the financial asset portfolio, and ultimately making investment returns more stable. Guiso and Jappelli argued that<sup>[9]</sup> Financial literacy can significantly promote households to allocate their financial assets in a decentralized manner. Lusardi et al. <sup>[10]</sup> found

that the higher the financial literacy of a household is, the more likely it is to participate in risky financial markets, especially the stock market. Luo Donglin found that<sup>[2]</sup> financial knowledge would promote households to allocate more securities assets. From the perspective of the diversity of household financial asset portfolios, Hu Zhen et al. concluded that financial literacy promotes the diversity of household financial asset portfolios, <sup>[11]</sup> and subjective financial literacy has a greater impact on the diversity of financial asset portfolios than objective financial literacy. Based on the dynamic optimal control theoretical model, Qin et al.<sup>[12]</sup> systematically studied the role of financial literacy in household financial asset allocation and its impact on the effectiveness of investment portfolio, and found that the improvement of financial literacy promoted the transformation of households from passive asset management strategy to active asset management strategy, and significantly increased the proportion of household risky financial asset portfolio effectiveness.<sup>[13]</sup>

The second category is the study of the impact of financial asset portfolio on household consumption. The earliest foreign theoretical research on consumption can be traced back to Keynes's General Theory of Employment, Interest and Money in 1936, in which he proposed that individual consumption is often related to current income,<sup>[14]</sup> but the added value of income is greater than that of consumption, and the marginal propensity to consume better describes the trend of consumption growth caused by income growth. According to the permanent income hypothesis proposed by Friedman,<sup>[15]</sup> permanent income is the "average" income of a household at different stages of its life cycle, and the household determines its marginal propensity to consume based on its permanent income rather than current income. The life cycle hypothesis proposed by Ando and Modigliani states that households tend to smooth their consumption and savings at different stages of the life cycle.<sup>[16]</sup> Scholars at home and abroad have also done a lot of empirical research on the impact of financial asset portfolio on household consumption. The behavioral life cycle theory proposed by Shefrin and Thalor believes that the liquidity difference of financial assets will make them heterogeneous in the degree of promoting consumption,<sup>[17]</sup> and financial assets cannot be completely substituted for each other. Bostic et al.<sup>[18]</sup> believed that there was a positive relationship between the holding level of financial assets and household consumption after empirical test. Yu and Wang believed that household financial assets have significant asset effect and wealth effect on urban and rural household consumption,<sup>[19]</sup> and the promotion effect of financial asset scale on consumption is greater than that of financial asset structure on consumption. From the perspective of the risk and return differences of financial assets,<sup>[20]</sup> Luo Juan and Wen Qin found that changes in various financial assets held by households have an impact on consumption, among which the wealth effect of securities assets on consumption exists in the short term and will disappear in the long term. Li Bo proposed that risky financial assets have two levels of impact on household consumption,<sup>[21]</sup> there is both wealth effect and risk effect, and there is a substitution relationship between the two, the risk effect is negative and the wealth effect is positive. Based on the theory of liquidity constraints and precautionary savings, Zang and Zhang<sup>[22]</sup> studied the household consumption behavior with heterogeneous asset structure.

Combined with the above literature, it can be found that, on the one hand, the increase of financial knowledge can enrich the types of financial assets allocated by households, deepen the depth of household participation in the financial market, and improve the tendency of households to invest in high-risk financial products. On the other hand, financial assets have a positive effect on consumption, but different types of financial assets have significantly different effects on consumption, so different combinations of financial assets and their effectiveness must also have different effects on consumption. The higher the effectiveness of household financial asset portfolio is, the higher the excess return rate brought by financial asset portfolio bearing unit risk under a given financial asset scale is. On this basis, if the wage income and operating income of the household do not fluctuate greatly in the short term, the property income brought by the higher excess rate of return will be transformed into additional consumption under the effect of the marginal propensity to consume, promoting the growth of the overall consumption expenditure of the household.

As for the theoretical analysis of residents' financial knowledge affecting household consumption, on the one hand, the higher the level of financial knowledge of residents is, the stronger their investment and financial management awareness is, and the more accurate their cognition of financial products is,<sup>[2]</sup> especially under the current situation of the simplification of financial asset allocation of Chinese residents. Improving the level of financial cognition is conducive to the transformation from a single bank deposit to a financial asset with higher risk but greater yield. From the perspective of risk, although in the short term, the return rate of financial assets with higher risk fluctuates greatly and cannot guarantee positive return, in the long run, these financial assets with higher expected return rate can bring more property income for households, which will eventually be converted into part of household assets and then play the wealth effect of assets. Promoting the growth of consumer spending; From the perspective

of liquidity, high-risk financial assets represented by stocks, equity funds and financial derivatives have higher liquidity than time deposits of traditional financial assets, which also weakens the precautionary saving motivation of residents and promotes the growth of consumer spending.<sup>[2]</sup>

On the other hand, the previous literature based on the classical consumption theory model has made an assumption that consumers are absolutely rational and there is no information insufficiency, which is reflected in that they can rationally anticipate future changes in interest rates and income levels and make consumption decisions based on these. However, the fact is that consumers who lack basic financial knowledge such as inflation, risk diversification and time value of money cannot make optimal decisions,<sup>[3]</sup> which greatly limits the promotion effect of wealth on consumption. The formulation of consumption plan requires individuals to have certain financial knowledge, and the consumption decision requires residents to have the knowledge of interest rate and inflation, and the calculation ability of present value and future value. At the same time, because the consumption plan is made for the uncertainty of the future, it is necessary for residents to have the awareness of investment diversification and the ability to deal with risks, and manage financial assets to deal with the possible risks in the future.<sup>[3,23]</sup>

Based on the above literature review and theoretical analysis, this paper proposes the following hypotheses:

H1: The rich financial knowledge of residents promotes the growth of household consumption expenditure.

H2: The level of household financial knowledge can promote the growth of household consumption expenditure by improving the effectiveness of household financial asset portfolio.

This paper will use the micro survey data of China Household Finance Survey (CHFS) in 2019 to conduct empirical analysis to verify whether the above hypotheses are valid.

#### 3. Model specification and data source

#### 3.1. Model specification

This paper establishes the following benchmark model to explore the impact of residents' financial literacy on household consumption:

 $ln(Total \ consumptionit) = \alpha 0 + \alpha 1 \times Finance \ literacyit + \alpha 2 \times Xit + \alpha 3 \times provinceit + \varepsilon 1it$ (1)

In Model (1), *InTotal\_consumption* represents the logarithm of the household's total consumption expenditure, and *Finance\_literacy* represents residents' financial knowledge, X represents the control variable, including the household characteristic variable and the household head characteristic variable. Referring to the research of Yi et al.,<sup>[24]</sup> the dummy variable of province, namely *province*, is added to the model to control various economic characteristics at the provincial level.  $\varepsilon$  represents the random disturbance term,  $\varepsilon \sim N(0, \sigma^2)$ . In order to avoid the correlation of disturbance terms as much as possible, this paper adopts the clustering robust standard errors at the prefecture level in the regression analysis. In order to test the mediating effect of the effectiveness of household financial asset portfolio, this paper refers to the research of Wen Zhonglin et al.<sup>[25]</sup> and constructs the following model:

Sharp radioit=
$$\beta 0+\beta 1\times F$$
 in ance literacy it+ $\beta 2\times X$  it+ $\beta 3\times p$  rovince it+ $\epsilon 2$  it (2)

 $ln(Total \ consumptionit) = \gamma 0 + \gamma 1 \times Finance \ literacyit + \gamma 2 \times Sharp \ radioit + \gamma 3 \times Xit + \gamma 4 \times provinceit + \varepsilon 3it$  (3)

Sharp\_radio in Models (2) and (3) represents the Sharpe ratio of the household financial asset portfolio and measures the effectiveness of the household financial asset portfolio, other variables have the same meaning as Model (1). If the coefficient  $\beta$ 1 of financial knowledge and the coefficient  $\gamma$ 2 of Sharpe ratio in Models (2) and (3) are both significant, it means that financial knowledge affects total household consumption expenditure through the mediating variable of household financial asset portfolio effectiveness.

#### 3.2. Data source and processing

The data used in the empirical analysis of this paper are the micro Survey data of China Household Finance Survey (CHFS) in 2019. The data are representative of national, provincial and sub-provincial cities,<sup>[26]</sup> with a sample size of 34,643 households. Referring to the practice of Yu and Wang,<sup>[19]</sup> we avoid

the heterogeneous consumption caused by the employment and retirement of the population, and only retain the samples of household heads aged between 18 and 65 (including 18 and 65). In order to avoid the influence of abnormal data points, variables with economic value, such as total household consumption, total financial assets, total income, total assets, total liabilities and housing assets, are winsorized by 5% and the samples with negative economic value variables are eliminated. In order to eliminate heteroscedasticity as much as possible, improve the goodness of fit of regression, and obtain stationary data, these economic value variables are log-transformed. After eliminating missing data and other abnormal data points, and interpolating some control variables, the effective sample number is finally 22552 households.

#### 3.3. Variable selection and description

According to the instructions on the use of CHFS data, the total household consumption expenditure includes food consumption, clothing consumption, housing consumption, household equipment and services consumption, transportation and communication consumption, education and entertainment consumption, medical care consumption and other consumption.<sup>[26]</sup>

For the measurement of financial knowledge, referring to the practice of Yin Zhchao et al.,<sup>[27]</sup> the score sum method is used to measure residents' financial knowledge, that is, the number of questions that respondents correctly answer in the CHFS questionnaire to test the level of household financial knowledge. The three questions selected in this paper are "Suppose the bank's annual interest rate is 4%. If you deposit 100 yuan in a one-year fixed deposit, what will the principal and interest be after one year?", "Assuming that the bank's annual interest rate is 5% and the inflation rate is 8% per year, what will 100 yuan in the bank buy after a year?", "Do you think that generally speaking, partial stock fund or partial debt fund which risk is greater?".

The mechanism variable in this paper is the effectiveness of financial asset portfolio. All types of household financial assets are divided into deposits, bonds and stocks according to the differences in risk. Among them, the deposit category includes cash, time and demand deposits, cash balance of stock accounts and Internet financial accounts; the bond category includes bonds, loans, Internet and financial financial products, money market and bond funds; the stock category includes stocks, financial derivatives, non-RMB assets, gold and other funds. The Sharpe ratio is used to measure the effectiveness of household financial asset portfolio.<sup>[28-29]</sup> The larger the Sharpe ratio is, the higher the efficiency of the household financial asset portfolio is.

Referring to other relevant literature, after balancing the estimation bias caused by missing variables and the loss of degrees of freedom caused by too many variables, this paper selects the following control variables: household characteristic variables include the total household income, total financial assets, total assets, total liabilities, housing assets, the number of family members, the type of household registration, whether engaged in industrial and commercial business, whether to own a house: The household head characteristic variables include age of the household head and its square, gender, marital status, physical condition, education level, employment status, and risk attitude. Among them, if they are engaged in industrial and commercial operation and whether they own their own houses, the value is 1; otherwise, the value is 2; In the household registration type, it is 1 for agriculture, 2 for non-agriculture, 3 for unified household registration, and so on. Gender is 1 for male and 2 for female; Marital status is 1 for unmarried, 2 for married, and so on; In terms of physical condition, 1 is very good, 2 is good, 3 is fair, and so on; The level of education is measured by the degree of education, such as 2 for primary school, 3 for junior high school, 4 for senior high school, 5 for undergraduate, and so on; In employment status, it is 1 for employee, 2 for employer, 3 for self-employed worker and 4 for family helper. Risk attitudes are measured as the level of risk preference of the household head. Referring to the practice of Jia Xianjun,<sup>[30]</sup> the respondents in the CHFS questionnaire asked "If you have a fund for investment, which investment project would you most like to choose?" The answer to the question serves as a measure of risk attitude, with higher values representing a greater unwillingness to take risks.

#### 4. Empirical analysis

#### 4.1. Descriptive statistical analysis

Table 3 lists the descriptive statistical indicators of the main variables. In addition, this paper also conducts Pearson correlation coefficient test among variables, and the absolute value of correlation coefficient between core explanatory variables and all control variables is less than 0.5. Therefore, the

# interference of multicollinearity is basically excluded.

Variables	Value of observation	Mean value	Standard deviation	Minimum value	Maximum value
Total consumption (ten thousand yuan)	22552	8.015	99205.364	0.119	376.687
Financial assets (ten thousand yuan)	22552	15.856	381427.81	0	1004
Total revenue (ten thousand yuan)	22552	9.125	204986.46	0	1212.242
Total assets (ten thousand yuan)	22552	122.682	14133310	10	210000
Total liabilities (ten thousand yuan)	22552	7.696	300826.48	0	1404.5
Housing assets (ten thousand yuan)	22552	90.417	1573317.7	0	3360
Number of family members	22552	1.858	0.692	1	10
Age of household head	22552	57.694	2.757	18	65
Age squared divided by 100	22552	33.362	2.439	3.24	42.25
Gender	22552	1.496	0.5	1	2
Type of household registration	22552	1.631	0.753	1	4
Marital status	22552	2.332	1.232	1	6
Physical condition	22552	2.59	1.019	1	5
Level of education	22552	3.493	1.683	1	9
Employment status	22552	1.941	0.707	1	4
Whether engaged in industrial and commercial business	22552	1.883	0.321	1	2
Whether to own the house	22552	1.099	0.298	1	2
Attitude to risk	22552	4.566	1.161	1	6
Financial Literacy	22552	0.627	0.83	0	3
The mean value of household financial knowledge in districts and counties	22552	0.6	0.297	0.063	1.565
Financial assets classified as deposits (ten thousand yuan)	22552	5.824	170733.36	0	420
Bond financial assets (ten thousand yuan)	22552	3.107	166620.5	0	800
Equity financial assets (ten thousand yuan)	22552	0.645	87259.578	0	750
Sharpe ratio	22552	0.222	0.402	0	1.45
Note: The mean val	ue, standard deviat	ion, minimum valu	ue and maximum va	lue are retained at r	nost three decimal
places, and the reter	ntion rule is rounde	d.			

Table 3: Descriptive statistics of the main variables.

places, and the retention rule is rounded.

#### 4.2. Benchmark regression

Table 4 shows the regression results of the impact of financial literacy on the annual total consumption expenditure of the household under the benchmark model. The result shows that the regression coefficient of financial knowledge on the annual total household consumption expenditure is 0.017 respectively, and is significant at the confidence level of 1%, indicating that the improvement of residents' financial knowledge is conducive to the growth of the annual total household consumption expenditure.

Variables	Total consumption			
Financial Literacy	0.017***			
	(0.006)			
Variable of control	YES			
Province fixed effect	YES			
Constant term	7.069***			
	(0.289)			
Value of observation	22552			
R-squared	0.452			
Note: (1) *, ** and *** indicate significance at the level of 10%, 5% and 1% respectively, the same below. (2)				

Table 4: Effect of financial literacy on total annual household consumption expenditure.

Note: (1) \*, \*\* and \*\*\* indicate significance at the level of 10%, 5% and 1% respectively, the same below. (2) The parentheses are the clustering robust standard errors at the prefecture level, the same below. (3) The regression coefficients, the numbers in parentheses and R-squared shall be kept at most three decimal places, and the retention rule shall be rounded, the same below.

#### 4.3. Test of mechanism

In order to verify whether financial literacy affects household annual total consumption expenditure through the mediating variable of financial asset portfolio effectiveness, this paper conducts regression estimation according to Model (2) and Model (3), Table 5(1) and (2) show the results of the regressions. The results show that, the regression coefficients of financial knowledge in Model (2) and Model (3) are significantly positive, and are significant at the level of 1% and 10% respectively. By comparing the regression results in Column (2) of Table 4, after the Sharpe ratio, which measures the effectiveness of the financial asset portfolio, is added, the coefficient of financial literacy is reduced from 0.017 to 0.011. This shows that financial knowledge affects household consumption expenditure by affecting the effectiveness of household financial asset portfolio. In addition, the coefficients  $\beta$ 1 and  $\gamma$ 2 in Model (2) and Model (3) are 0.046 and 0.128 respectively, which are significantly positive, which further verifies the existence of the mediating effect of the effectiveness of the household financial asset portfolio.

Variables	Sharpe ratio	Total consumption
Financial Literacy	0.046***	0.011*
	(0.003)	(0.006)
Sharpe ratio		0.128***
		(0.018)
Variable of control	YES	YES
Province fixed effect	YES	YES
Constant term	-0.358***	7.114***
	(0.114)	(0.288)
Value of observation	22552	22552
R-squared	0.257	0.453

 Table 5: Financial literacy is tested by the effect of household financial asset portfolio effectiveness on household annual total consumption expenditure.

#### 4.4. Robustness test

There may be endogenous problems in the regression of financial knowledge on household consumption under the benchmark model. First, while financial knowledge affects consumption by affecting the effectiveness of household financial asset portfolio, households may also learn knowledge related to finance and financial management in the process of consumption, that is, there is a two-way correlation between financial knowledge and household consumption. Second, other control variables included in the benchmark model may not be all the variables that affect household consumption, so some important factors may be omitted, such as the consumption policies introduced by the government, the macroeconomic environment and so on. In order to overcome the potential endogeneity problem, this

paper draws on the idea of solving the endogeneity problem of Nan et al.,<sup>[31]</sup> takes the average household financial knowledge of the district and county where the household is located as the instrumental variable, and the selected instrumental variable basically meets the two conditions of correlation and exogeneity: On the one hand, other households in the same district and county may affect the financial knowledge level of a specific household through certain social interaction and herding effect, which satisfies the correlation; On the other hand, this instrumental variable will not be influenced by the consumption decision of a specific household, and is uncorrelated with the residual term of a specific household, which satisfies exogeneity. Therefore, the mean of the financial knowledge of households in the same district and county meets the requirements of the instrumental variable of the model.

In order to avoid the problems caused by weak instrumental variables as much as possible, this paper uses the limited information maximum likelihood method (LIML), which is more insensitive to weak instrumental variables, to estimate the model. Table 6 reports the IV-LIML estimation results using instrumental variables, as well as the results of Hauaman test. According to the results of Hauaman test, the hypothesis that all variables in the original model are exogenous can be clearly rejected, and the F-statistic 431.25 in the first stage is much larger than the critical value of 16.38 at the 10% error level, which also confirms that the instrumental variable is not a weak instrumental variable. In addition, the regression coefficient of financial knowledge, 0.16, is still positive at the significance level of 1%, which is consistent with the regression results of the benchmark model. Compared with the regression coefficient of financial knowledge in the regression results of the benchmark model, the regression coefficient obtained by IV-LIML method is significantly larger, which may be because the influence of other households in the district and county on the financial knowledge level of a specific household is heterogeneous. The families with low education level and low financial knowledge level are more likely to be affected by other families in the district and county. That is, there is a local average treatment effect (LATE).<sup>[24]</sup>

Variables	Total consumption				
Financial Literacy	0.16***				
	(0.036)				
Variable of control	YES				
Province fixed effect	YES				
Constant term	7.127***				
	(0.292)				
Value of observation	22552				
R-squared	0.435				
Hauam	nan test				
chi2(1)	16.03				
p>chi2(1)	0.0001				
The first stage r	egression results				
The mean value of household financial knowledge in	0.466***				
districts and counties	0.400				
	(0.021)				
F-statistics of the first stage	431.25				

Table 6: Endogenous robustness test: IV-LIML method.

#### 5. Conclusions

Comprehensively promoting consumption, following the trend of upgrading household consumption, and combining expanding consumption with improving people's quality of life are the key points put forward in the Outline of the 14th Five-Year Plan. Through the use of financial knowledge, the household can rationally allocate the financial assets owned by the household at a certain level of financial management. The income of financial assets is the third source of income besides the salary and operating income of the household, and the expectation of these incomes will affect the household's intertemporal consumption decisions. Therefore, it is of great practical significance to enhance residents' financial knowledge level and optimize the effectiveness of household financial asset portfolio to comprehensively promote consumption and improve people's quality of life. Based on the data of China Household Finance Survey (CHFS) in 2019, this paper empirically analyzes the impact of residents' financial asset portfolio effectiveness and the moderating role of urban-rural, regional, urban size and the number of houses in this impact, and draws the following conclusions: The wealth of residents' financial knowledge improves the effectiveness of household financial asset portfolio, and then leads to the increase of

household consumption expenditure. In addition, considering the potential endogeneity problems, this paper uses the IV-LIML method to regression the benchmark model, which support the regression result of the benchmark model.

# References

[1] Chen Zi, Luo Hehua. (2019). Research on the impact of financial literacy on household assets. Financial Theory and Practice (09), 60-68.

[2] Luo Donglin. (2021). Financial knowledge, financial asset structure and household consumption: an empirical analysis based on China Household Finance Survey (CHFS) data. Wuhan Finance (06), 74-80.

[3] Song Quanyun, Xiao Jingna, Yin Zhichao. (2019). Research on Chinese residents' consumption from the perspective of financial knowledge. The Economic Review (01), 133-147.

[4] Noctor, M., Stoney, S., Stradling, R. (1992). Financial Literacy: A Discussion of Concepts and Competences of Financial Literacy and Opportunities for Its Introduction into Young People's Learning. Report Prepared for the National Westminster Bank, National Foundation for Education Research, London.

[5] Lusardi, A., Mitchell, O.S. (2014). The Economic Importance of Financial Literacy: Theory and Evidence. Journal of Economic Literature (01), 5-44.

[6] Yin Zhichao, Song Quanyun, Wu Yu, Peng Changyan. (2015). Financial literacy, entrepreneurial decision making, and entrepreneurial motivation. Managing the World (01), 87-98.

[7] Wu Kun, Li Hongbo. (2021). The impact of subjective and objective financial literacy on household consumption. Finance and Economics (12), 87-96.

[8] Murendo, C., Mutsonziwa, K. (2016). Financial Literacy and Savings Decisions by Adult Financial Consumers in Zimbabwe. International Journal of Consumer Studies (01), 95-103.

[9] Guiso, L., Jappelli, T. (2009). Financial Literacy and Portfolio Diversification. CSEF Working Papers (05), 515-528.

[10] Van, R.M., Lusardi, A., Alessie, R. (2011). Financial Literacy and Stock Market Participation. Journal of Financial Economics (101), 449-472.

[11] Hu Zhen, Wang Yaping, Shi Baofeng. (2018). Does financial literacy affect household financial asset portfolio diversity? Investment Research (03), 78-91.

[12] Qin Hailin, Li Chaowei, Wan Jiale. (2018). Financial literacy, financial asset allocation and portfolio effectiveness. Journal of Nanjing Audit University (06), 99-110.

[13] Wu Weixing, Wu Kun, Zhang Xuyang. (2018). Financial literacy and household asset portfolio effectiveness. International Finance Studies (05), 66-75.

[14] Keynes, J.M. (1936). The General Theory of Employment, Interest and Money. London: Macmillan Publishers.

[15] Friedman, M. (1957). A Theory of the Consumption Function. Princeton: Princeton University Press.

[16] Ando, A., Modigliani, F. (1963). The "Life Cycle" Hypothesis of Saving: Aggregate Implications and Tests. The American Economic Review (01), 55-84.

[17] Shefrin, H., Thaler, R.H. (1988). The Behavioral Life-Cycle Hypothesis. Economic Inquiry (04), 609-643.

[18] Bostic, R., Gabriel, S., Painter, G. (2009). Housing Wealth, Financial Wealth, and Consumption: New Evidence from Micro Data. Regional Science and Urban Economics (01), 79-89.

[19] Yu Ping, Wang Can. (2019). How does financial asset allocation affect household consumption in urban and rural China: based on CHFS2013 and CHFS2015 data. Journal of Hebei University of Economics and Business (06), 18-27.

[20] Luo Juan, Wen Qin. (2016). An empirical study on the influence of financial asset allocation of urban households on household consumption. The Consumer Economy (01), 18-22.

[21] Li Bo. (2015). The impact of financial risk asset allocation on consumption expenditure of urban households in China: an empirical analysis based on micro-survey data CHFS. International Finance Studies (01), 83-92.

[22] Zang Xuheng, Zhang Xin. (2018). Household asset allocation and heterogeneous consumer behavior in China. Economic Research (03), 21-34.

[23] Zhang Bing, Han Xuyi. (2021). The impact of household debt on consumption gap: an analysis based on the moderating effect of financial knowledge. Wuhan Finance (10), 78-85.

[24] Yi Xingjian, Wang Jingxue, Chen Jun, Yang Biyun. (2020). The impact of financial assets on household consumption: an empirical test from the perspective of asset structure. The Consumer Economy (05), 3-16.

[25] Wen Zhonglin, Fang Jie, Xie Jinyan, Ouyang Jinying. (2022). Methodological research on the mediating effect in China. Advances in Psychological Science (08), 1692-1702.

[26] Gan Li, Yin Zhichao, Jia Nan, Xu Shu, Ma Shuang. (2013). Analysis of household assets and housing demand in China. Research on Finance (04), 1-14.

[27] Yin Zhichao, Song Quanyun, Wu Yu. (2014). Financial literacy, investment experience and household asset choice. Economic Research (04), 62-75.

[28] Wu Yu, Li Xiao, Li Jie, Zhou Li. (2021). Development of digital finance and effectiveness of household financial asset portfolio. Managing the World (07), 92-104+7.

[29] Pelizzon, L., Weber, G. (2009). Efficient Portfolios when Housing Needs Change over the Life Cycle. Journal of Banking and Finance (11), 2110-2121.

[30] Jia Xianjun. (2020). Empirical study on the impact of household financial asset structure on household consumption upgrading. Statistics and Decision (18), 154-157.

[31] Nan Yongqing, Xiao Haoran, Shan Wentao. (2020). Household assets, wealth effect and household consumption upgrading: micro evidence from China Household Tracking Survey. Journal of Shanxi University of Finance and Economics (08), 1-15.