

Will Inflation Expectations Affect Residents' Financial Exclusion?

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Abstract

Based on the data of Chinese Household Finance Survey (CHFS) in 2015, this paper uses instrumental variable method to conduct empirical research on the relationship between residents' inflation expectation and financial exclusion. The results show that individual inflation expectation can significantly improve the probability of residents' financial exclusion. Individual inflation expectation has a significant positive impact on the exclusion of residential investment products and credit products. Furthermore, through the interaction term, it is found that only in the group with high inflation expectation, economic information can significantly reduce residents' financial exclusion. In addition, inflation expectation has obvious heterogeneity in the exclusion of different financial products. In addition, individual inflation expectations also have a significant impact on the number of residents' financial products, rising inflation expectations raised the residents in the low risk allocation on financial products, to reduce the risk allocation of the financial product, at the same time, individual inflation expectations of residents, there is no significant difference among the production and business operation loans accounted for, But it has significantly increased the share of consumer loans.

Keywords

Inflation Expectation, Investment Product Exclusion, Credit Product Exclusion, Financial Exclusion

1. Introduction

The phenomenon of financial exclusion is widespread in China. Among the indicators of G20 financial inclusion index system (2013 and 2014), 12 indicators ranked in the top 30%, and the proportion of adults in savings accounts (78.93%) and the proportion of adults in financial institutions (41.15%). It is

only slightly higher than the G20 average (76.50% and 35.45%). For the causes of financial exclusion done systematic research scholars at home and abroad, Stiglitz & Weiss (1981) found that family financial exclusion is caused by asymmetric information in financial markets, lead to residents in financial activities don't get enough financial services and products, not the normal use of financial resources, there is room for pareto improvement. From the perspective of supply and demand, that is, residents' demand for financial services cannot match the supply of financial services provided by financial institutions, which leads to the emergence of financial exclusion. In addition, it should be pointed out that financial exclusion includes both passive financial exclusion when residents try to obtain financial services but are rejected, and self-exclusion when residents think they will be rejected when they seek financial services (Li et al., 2010). Therefore, this paper mainly considers the factors affecting residents' financial exclusion from the demand side of financial services.

Residents of inflation expectations can affect the probability of financial exclusion, on the one hand, according to the theory of expected inflation expectations are market participants according to the price signal and the past experience and information to make a judgment of the future price trend, this kind of judgment is bound to affect residents' behavior such as investment and consumption, thus affect the residents' financial exclusion; On the other hand, in the case of sustained inflation, market price signals are usually distorted, thus increasing uncertainty, which leads to changes in residents' confidence. Studies have shown that inflation can affect residents' confidence in the future. And financial products and services nature demanders exchange between the current investment and future returns, has the characteristics of the separation of time, so the confidence of the people play a very important role in them, if people have confidence in the future, they for financial institutions will be more trust, believe that the financial institutions will try our best to fulfill the contract in financial activities, In addition, the confidence and optimism about the future can enhance the risk tolerance of residents (Puri & Robinson, 2007), and they are more active in obtaining financial services and products. Financial institutions are also more willing to provide financial services for these groups, thus reducing the probability of residents' financial exclusion (Li et al., 2010).

Based on the data of Chinese household finance survey, this paper systematically studies the effect of household inflation expectation on financial exclusion. This paper through the factor analysis method was constructed investment products exclusion, credit products and financial exclusion index, the study found that residents of inflation expectations can significantly improve the probability of financial exclusion occurs, the other economic information acquisition in the process of impact have played an important role in regulating, namely only in high inflation expectations of the group. Only economic information can significantly reduce residents' financial exclusion. Further study found that residents of the inflation expectations of financial exclusion have he-

terogeneity, and inflation expectations have increased the residents in the low risk allocation on financial products, reduces the risk of financial product allocation, in terms of credit product selection, inflation is expected to significantly improve the proportion of consumer loans. Therefore, maintaining price stability and stable price expectation can help alleviate the occurrence of residents' financial exclusion.

2. Literature Review

2.1. Relevant Literature on Factors Affecting Residents' Financial Exclusion at the Micro Level

First of all, the demographic characteristics of residents can affect the financial exclusion of individuals. For example, Christiansen et al. (2009) believes that differences in income, age and wealth between men and women will lead to differences in risk preferences. Therefore, men are less financially excluded than women. Financial knowledge can affect financial exclusion. Zhang Jundong found that financial knowledge can significantly reduce the probability of family financial exclusion, and financial knowledge has a greater impact on family investment product exclusion than financing product exclusion. Xu Shengdao and Tian Lin (2008) also found that among many influencing factors, financial knowledge has a significant impact on financial exclusion. Level of education and age, Britain's financial services agency (FSA) via the data found that level of education can partly explain the financial exclusion, but age can directly affect the financial exclusion is uncertain, Li Tao, etc. (2010) also puts forward the age of the individual may by influencing the risk appetite indirect influence residents' financial exclusion; Political status, Liu (2003) found that party membership in China can help residents obtain more financial services and products, and can also indirectly affect residents' financial exclusion by increasing their income. Religious belief and ethnic group. Religious belief makes residents more trust and optimistic about the government and institutions (Guiso et al., 2003), while ethnic minorities may be discriminated against more (Devlin, 2005), which will affect residents' financial exclusion.

On the one hand, real estate can be used as collateral to alleviate residents' financial exclusion (Cardak & Wilkins, 2009). On the other hand, the difficulty and high cost of realisation of real estate will reduce residents' access to financial assets (Wu et al., 2007); Income and liabilities. Residents with higher income and less liabilities have more assets and ability to obtain financial services and products, which alleviates financial exclusion (Devlin, 2005). Credit constraints will restrict the capital available to residents, which will affect residents' access to financial products and services (Buckland & Simpson, 2008).

2.2. Relevant Literature on the Effect of Inflation Expectation

Most of the existing literatures on the effect of inflation expectations are studied from the macro level, and these literatures are abundant. Inflation expectation

can affect actual inflation. Zhang Bei (2009) found in her research that Chinese consumers' inflation expectation can significantly affect actual inflation. Li Cheng and Ma Wentao et al. (2010) studied the impact of inflation expectation on macroeconomic stability, and the results showed that the fluctuation of inflation expectation can affect macroeconomic stability.

Inflation expectations can also affect the behavior of firms and individuals at the micro level. Li Qingyuan et al. (2015) studied the data of A-share listed companies in Shanghai and Shenzhen stock markets from 2003 to 2013 and found that inflation expectation is positively correlated with enterprise financing. Rao Pingui found that enterprises would reduce cash holdings in anticipation of future price increases. Inflation expectations not only affect enterprise behavior, but also affect micro-subject behavior through changing individual expectations. Pan Mingqing et al. (2015) showed that the rise of inflation expectation would increase the current consumption of durable goods and restrain the current consumption of non-durable goods. Yan Yanyang et al. (2012) showed that residents' inflation expectation could significantly affect individual savings behavior.

3. Data and Variables

The data used in this paper come from the 2015 China Household Finance Survey (CHFS) of Southwestern University of Finance and Economics. The Chinese Household Finance Survey project uses a three-stage stratified sampling method to collect data and information on household demographic characteristics, assets and liabilities, insurance and security, expenditure and income, etc.

3.1. Dependent Variable: Family Financial Exclusion

According to the definition of family financial exclusion by Kempson et al. (1999) as the constraints that families encounter when they enjoy formal financial products and services, this paper adopts the dummy variable method of "whether a financial account is owned or not", referring to the practice of Zhang Hongdong and Yin Zhichao. In addition, two methods of factor analysis are used to measure the variable of family financial exclusion respectively. The two methods are as follows:

3.1.1. Dummy Variable Method

This paper uses the dummy variable "whether a family has a formal financial account" to measure residents' financial exclusion. In addition, residents' financial exclusion is divided into residents' investment-type product exclusion and residents' credit-type product exclusion. Further, the exclusion of residential investment products is divided into bond exclusion, fund exclusion, financial exclusion, stock exclusion, gold exclusion, non-RMB assets exclusion, fixed deposit exclusion and current deposit exclusion. Residential credit product exclusion is subdivided into education loan exclusion, production and operation loan exclusion, housing loan exclusion, car loan exclusion and credit

card exclusion. The rejection indexes obtained by the structure are shown in **Table 1** and **Table 2**.

Table 1 and **Table 2** respectively report the degree of residents' rejection of investment products and credit products. In the table, the first row represents the number of households owning this financial product, the second row represents the proportion of households owning this financial product in the total sample, and the third row represents the rejection proportion of each financial product. As can be seen from the table, rejection of either investment products or credit products is prevalent in Chinese households. 36.46% of Chinese residents have no investment products, 80.50% have no credit products, and 30.01% have neither investment products nor credit products. This ratio is basically consistent with the research results of Zhang Yudong and Yin Zhichao. In terms of financial products, excluding demand deposits, the rejection rate of investment products is 42.61%, the rejection rate of other products is above 80%, and the rejection rate of credit products is above 90%. On the whole, the degree of rejection of resident credit products is very high, and that of investment products is slightly lower, but it is also very common.

3.1.2. Factor Analysis

According to different dummy variables of financial products, we use factor analysis method to construct the exclusion index of residential investment products and residential credit products respectively, and further construct the financial exclusion index on the basis of these two indicators. According to **Table 4** and **Table 6**, KMO test shows that the value of KMO is greater than 0.6, suitable for factor analysis, in addition, according to **Table 3** and **Table 5**, based on the factor analysis of investment and credit products in the principle of eigenvalues greater than 1, keep four factors and two factors respectively, on the basis of investment products and credit products exclusion structure, further to

Table 1. Degree of rejection of residents' investment products.

Variable	Bond	Fund	Financial	Stock	Gold	Non-renminbi assets	Time deposits	Demand deposits	Investment products
number	195	2314	290	2314	170	332	4702	15,336	16,979
The proportion	0.73%	8.66%	1.09%	8.66%	0.64%	1.24%	17.60%	57.39%	63.54%
Rejection ratio	99.27%	91.34%	98.91%	91.34%	99.36%	98.76%	82.40%	42.61%	36.46%

Table 2. Degree of rejection of credit products by residents.

Variable	Education loan	Production and operation loan	Housing loans	Car loans	The credit card	Credit products
number	470	1179	2367	437	1563	5212
The proportion	1.76%	4.41%	8.86%	1.64%	5.85%	19.50%
Rejection ratio	98.24%	95.59%	91.14%	98.36%	94.15%	80.50%

Table 3. Factor analysis results (investment product rejection).

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9
The eigenvalue	1.672	1.119	1.001	1.002	0.933	0.898	0.832	0.823	0.728
The proportion	0.1858	0.1244	0.1113	0.1101	0.1037	0.0998	0.0925	0.0914	0.0809
The cumulative	0.1858	0.3103	0.4216	0.5316	0.6353	0.7352	0.8276	0.9191	1

Table 4. KMO test and factor load (investment product exclusion).

	KMO test	Factor loading
bond	0.6159	0.4461
stock	0.6425	0.5336
fund	0.6649	0.619
derivatives	0.6116	0.4328
financial	0.6787	0.7197
gold	0.6973	0.2136
Non-renminbi assets	0.702	0.7149
Time deposits	0.6871	0.7987
Demand deposits	0.6718	0.7273

Table 5. Factor analysis results (credit product exclusion).

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
The eigenvalue	1.30483	1.06988	0.90998	0.8865	0.82881
The proportion of	0.261	0.214	0.182	0.1773	0.1658
The cumulative	0.261	0.4749	0.6569	0.8342	1

Table 6. KMO test and factor loading (credit product exclusion).

	KMO test	Factor loading
Education loan	0.6367	0.429
Production and operation loan	0.6621	0.5544
Housing loans	0.6752	0.6235
Car loans	0.6865	0.6684
The credit card	0.6118	0.3501

two indicators median line. If the value is greater than the median, it is assigned 1; if the value is less than the median, it is assigned 0. Dummy variables of investment product rejection and credit product rejection are constructed respec-

tively. In addition, financial exclusion dummy variables are constructed according to investment product exclusion dummy variables and credit product exclusion dummy variables.

3.2. Independent Variable: Inflation Expectation

Inflation expectations in micro-survey data usually come from the question “How do you expect prices to change in the next year?”, answer: rose a lot, up a little, almost the same, down a little bit and reduce a lot, in order to construct the corresponding residents of inflation expectations, usually in existing literature will answer is down a little bit and reduce a lot of assignment is 0, the answer is almost the same value is 1, will answer to rise a lot and rising a little assignment to 2.

3.3. Control Variables

Referring to the existing literature, this paper selected the following control variables: individual characteristic variables of residents (urban household registration, educated class, household registration of local city and county, risk preference, age of head of household, etc.), family characteristic variables (family income, permanent household population, etc.), and regional characteristic variables were also controlled in this paper. We eliminated the missing value samples and finally obtained a total of 26,733 samples. The descriptive descriptions of specific variables are shown in **Table 7**.

4. Discussion on Models and Endogeneity

In order to study the impact of individual inflation expectations on residents' financial exclusion, this paper sets the basic model as follows:

$$\text{Prob}(Y = 1 | X) = \text{Prob}(\partial \text{Inflation_expectations} + \beta X + u > 0 | X)$$

Among them, $u \sim N(0, \sigma^2)$.

The dummy variable in the model represents the financial exclusion variable constructed by the dummy variable method and factor analysis method.

Inflation_expectations represents the residents' inflation expectation. X represents control variables, including household head's individual characteristic variables, family characteristic variables and regional characteristic variables, etc.

The above model studies the impact of individual inflation expectations on residents' financial exclusion. However, the possibility of endogeneity may occur, including mutual causality and the influence of overestimated or underestimated inflation expectations caused by omitted variables. Therefore, this paper chooses the instrumental variable method for two-stage estimation. We chose parental inflation expectations as the instrumental variable of respondents' own inflation expectations.

5. Empirical Research and Regression Analysis

5.1. Inflation Expectations and Household Financial Exclusion

According to the above definition of residents' financial exclusion and inflation

Table 7. Sample descriptive statistics.

	Sample size	Mean	The standard deviation	Minimum	Maximum
Investment product exclusion (Dummy variable method)	26,733	0.875	0.329	0	1
Credit exclusion (Dummy variable method)	26,733	0.805	0.396	0	1
Financial exclusion (Dummy variable method)	26,733	0.722	0.447	0	1
Investment product exclusion (Factor analysis)	26,733	0.778	0.415	0	1
Credit exclusion (Factor analysis)	26,733	0.976	0.15	0	1
Financial exclusion (Factor analysis)	26,733	0.761	0.426	0	1
Inflation expectations	26,733	1.775	0.553	0	2
Logarithm of household income	26,733	9.847	0.944	0	13.815
Urban hukou or not	26,733	0.445	0.497	0	1
Educated class	26,733	1.721	0.824	1	3
Whether this city county registered permanent residence	26,733	0.92	0.27	0	1
Risk aversion	26,733	0.279	0.448	0	1
Risk neutral	26,733	0.253	0.435	0	1
Risk appetite	26,733	0.468	0.498	0	1
age	26,733	39	20.538	1	112
Family resident population	26,733	4.147	1.677	1	18
Whether engaged in business or not	26,733	0.154	0.361	0	1
gender	26,733	0.507	0.499	0	1
Are married or not	26,733	0.641	0.479	0	1
The local public security	26,733	1.41	0.682	0	2
Whether the han nationality	26,733	0.506	0.499	0	1
Employment with a business or organization	26,733	0.505	0.499	0	1
entrepreneurship	26,733	0.119	0.324	0	1
Farming or unemployed	26,733	0.373	0.483	0	1

expectations, we first examine the individual inflation expectations affect residents' financial exclusion, including financial exclusion we adopted factor analysis method to construct indexes. **Table 8** reports the results of the impact of individual inflation expectation on residents' financial exclusion (factor analysis). In view of the possible endogenous problems, we chose parents' inflation expectations as instrumental variables of inflation expectations and adopted Ivprobit model for maximum likelihood estimation. The report results are shown in columns 2, 4 and 6 of the table respectively.

The results of the first, third and fifth columns of **Table 8** show that after controlling the individual characteristics, family characteristics and regional characteristic variables of household heads, the increase of individual inflation expectation increases the probability of residents' investment product rejection.

However, the above results may be endogenous, so the estimated results may be biased. In order to solve the above problems, we used parents' inflation expectations as the instrumental variable of respondents' inflation expectations to carry out two-stage estimation. The results of Ivprobit regression reported in columns 2, 4, and 6 passed the Wald endogeneity test. In addition, in the estimation of two-stage instrumental variables, the estimated F value in the first stage is 185.74. According to the critical value of 16.38 under the 10% bias level, there is no problem of weak instrumental variables in selecting parents' inflation expectations as instrumental variables. Meanwhile, in the first-stage regression, the *t*-value of parents' inflation expectation is 56.45, which is significant at the 1% level, indicating that parents' inflation expectation is highly correlated with respondents' inflation expectation, which further indicates that the choice of instrumental variables is appropriate. In addition, the coefficient of inflation expectation is 0.088, 0.005 and 0.093 respectively, indicating that the endogenous problem does lead to the underestimation of the impact of inflation expectation on residents' financial exclusion. Specifically, when residents' inflation expectation rises by one percentage point, the probability of residents' investment product rejection increases by 8.8%. The probability of rejection of credit products increased by 0.5%, while the probability of rejection of finance increased by 9.3%.

5.2. The Role of Economic Information in the Process of Influence

The economic information is then studied in inflation expectations affect residents' financial exclusion process function, on the basis of the basic regression in turn we joined "concern for economic information" dummy variable, and the dummy variable and the interaction of inflation expectations, in order to observe whether economic information is play a regulatory role in the process of impact, other control variables is the same as the above, The regression results are shown in **Table 9**.

As can be seen from the regression results of **Table 9**, the coefficient of this variable is negative and significant when the variable of whether to pay attention to economic information is added separately, indicating that the improvement of

Table 8. The impact of individual inflation expectations on residents' financial exclusion.

Variable	Investment rejection		Credit exclusion		Financial exclusion	
	probit	ivprobit	probit	ivprobit	probit	ivprobit
Inflation expectations	0.016*** (0.005)	0.088*** (0.013)	0.003* (0.002)	0.005* (0.004)	0.016*** (0.005)	0.093*** (0.012)
Urban hukou or not	0.142*** (0.006)	0.141*** (0.006)	0.006** (0.002)	0.006** (0.002)	0.138*** (0.006)	0.137*** (0.006)
Educated class	0.088*** (0.005)	0.088*** (0.004)	0.003* (0.002)	0.003* (0.002)	0.093*** (0.005)	0.093*** (0.004)
Whether this city county registered permanent residence	0.035*** (0.009)	0.031*** (0.009)	0.008** (0.003)	0.007** (0.003)	0.028*** (0.009)	0.024** (0.009)
Logarithm of household income	0.036*** (0.006)	0.037*** (0.007)	0.008 (0.007)	0.008 (0.007)	0.033*** (0.007)	0.031*** (0.006)
Risk aversion	0.011 (0.007)	0.012* (0.007)	0.011*** (0.003)	0.011*** (0.003)	0.016** (0.007)	0.017** (0.007)
Risk appetite	0.011* (0.006)	0.007 (0.006)	0.004* (0.002)	0.004* (0.002)	0.015** (0.006)	0.012* (0.006)
age	0.001 (0.001)	0.001 (0.001)	0.0006 (0.0004)	0.0006 (0.0004)	0.0004 (0.001)	0.0004 (0.001)
Age party	0.00001 (0.015)	0.00001 (0.00005)	0.008 (0.009)	0.008 (0.009)	0.024 (0.00001)	0.022 (0.00001)
Family resident population	0.007*** (0.002)	0.006*** (0.002)	0.002*** (0.0006)	0.003*** (0.0006)	0.004* (0.002)	0.002 (0.002)
Whether engaged in business or not	0.027*** (0.008)	0.024*** (0.008)	0.47*** (0.002)	0.47*** (0.002)	0.076*** (0.008)	0.072*** (0.008)
gender	0.018 (0.005)	0.018 (0.005)	0.0008 (0.002)	0.0008 (0.002)	0.018 (0.005)	0.018 (0.005)
Are married or not	0.035*** (0.008)	0.034*** (0.008)	0.005 (0.003)	0.005 (0.003)	0.040*** (0.008)	0.039*** (0.008)
The local public security	0.011*** (0.004)	0.011*** (0.004)	0.009*** (0.002)	0.010*** (0.001)	0.018*** (0.004)	0.018*** (0.004)
Whether the han nationality	0.013* (0.007)	0.012* (0.007)	0.0009 (0.002)	0.0009 (0.002)	0.010 (0.007)	0.009 (0.007)
Employment with a business or organization	0.044*** (0.006)	0.045*** (0.006)	0.008*** (0.003)	0.008*** (0.003)	0.037*** (0.006)	0.038*** (0.006)
Entrepreneurship	0.026** (0.011)	0.026** (0.011)	0.009*** (0.003)	0.009*** (0.003)	0.042*** (0.011)	0.042*** (0.011)
Regional variables	control	control	control	control	control	control
Wald Chi ²		1877.91***		794.18***		1813.07***
Pseudo R ²	0.121		0.2069		0.11	
The first stage The F value		185.74***		185.74***		185.74***
Wald test		8.38***		8.03***		9.85***

Note: *, ** and *** are significant at 10%, 5% and 1% levels respectively, and the brackets are standard deviations.

Table 9. Moderating effect of individual inflation expectation on residents' financial exclusion.

variable	Investment rejection			Credit exclusion			Financial exclusion		
Inflation expectations	0.016*** (0.005)	0.014** (0.006)	0.014** (0.006)	0.003* (0.002)	0.004** (0.002)	0.004** (0.002)	0.016*** (0.005)	0.018*** (0.006)	0.018*** (0.006)
Economic information		-0.007* (0.017)	-0.009* (0.017)		-0.007* (0.005)	-0.008* (0.005)		-0.008* (0.017)	-0.011* (0.017)
Inflation expectations * Economic information			-0.057** (0.029)			-0.014* (0.009)			-0.061** (0.029)

Note: 1. *, ** and *** are significant at the level of 10%, 5% and 1% respectively, and the brackets are standard deviations. 2. Control variables are not listed due to space limitations.

residents' economic information reduces their investment exclusion, credit exclusion and financial exclusion. In addition, when the interaction term of whether to pay attention to economic information and inflation expectation is added, the interaction term is significantly negative, indicating that whether to pay attention to economic information plays a moderating role in the impact of individual inflation expectation on residents' financial exclusion. Simple Slope test analysis shows that, in the group with high inflation expectation, access to economic information can significantly reduce residents' investment exclusion, credit exclusion and financial exclusion, but in the group with low inflation expectation, economic information does not significantly reduce residents' financial exclusion.

5.3. Analysis of the Impact of Inflation Expectation on Residents' Rejection of Investment Products

The above analysis of the impact of individual inflation expectations on residents' financial exclusion and the role of economic information in the impact, but inflation forecasts. The impact on specific financial products may be heterogeneous. **Table 10** examines the impact of inflation expectations on the exclusion of specific investment products. We respectively examine the impact of inflation expectations on the exclusion of bonds, funds, stocks, financial management, gold, non-RMB assets, time deposits and demand deposits.

Table 10 shows that the regression results of bonds, funds, stocks, gold and time deposits pass the Wald endogeneity test. Financial management passes the Wald endogeneity test at the significance level of 50% and non-RMB assets at the significance level of 12%. Regression results show that when residents' inflation expectations increase by one unit, the exclusion probability of bonds and gold products will decrease by 0.4%, while the exclusion probability of funds, stocks, RMB financial management, non-RMB assets and time deposit products will increase by 3.5%, 6.7%, 0.5%, 0.8% and 3.1% respectively. The above results indicate that with the rise of individual inflation expectations, residents tend to invest in bonds and gold products with low risks or good hedging effects, and reduce their investment in funds, stocks, financial management, non-RMB assets

and other products with high risks or insignificant hedging effects.

5.4. Analysis of the Impact of Inflation Expectation on Residents' Rejection of Credit Products

Then we studied the impact of inflation expectations on the exclusion of residential credit products, including educational loans, production and operation loans, housing loans, car loans and credit cards.

Table 11 reports the regression results, according to the reported results, when individual inflation expectation increases by one unit, the rejection probability of residents' education loans will decrease by 1.8%, while the rejection probability of production and business loans, housing loans and credit cards will increase by 5.1%, 2.3% and 1.5% respectively.

6. Robustness Test

Robustness to test the above results, we use a dummy variable method to reconstruct the residents investment products exclusion, credit products and financial exclusion index, and study the effects of inflation expectations for the new indicators, according to the results of individual residents rising inflation expectations really contributed to the investment product rejection, the degree of credit products and financial exclusion, results besides coefficient have change, other basic consistent with the original equation, the other control variables compared to the original equation change is not big, this also verify the reliability of our conclusion.

Table 10. Impact of inflation expectation on residents' rejection of investment products.

variable	bond	fund	stock	financial	gold	Non-renminbi assets	Time deposits	Demand deposits
Inflation expectations	0.004* (0.004)	0.035*** (0.007)	0.067*** (0.008)	0.005* (0.003)	0.004*** (0.001)	0.008** (0.004)	0.031** (0.013)	0.001 (0.016)
Wald test	3.55*	20.71***	51.95***	0.54	8.18***	2.52	9.41***	0.13
<i>P</i> values	0.0590	0.0000	0.0000	0.4634	0.0042	0.1126	0.0022	0.7135

Note: 1. *, ** and *** are significant at the level of 10%, 5% and 1% respectively, and the brackets are standard deviations. 2. Control variables are not listed due to space limitations.

Table 11. Impact of goods inflation expectation on household credit product rejection.

variable	Education loan	Production and operation loan	Housing loans	Car loans	Credit card
Inflation expectations	0.018*** (0.007)	0.051*** (0.014)	0.023** (0.010)	0.007 (0.024)	0.015* (0.008)
Wald test	10.14***	8.10***	1.04	0.6	5.98**
<i>P</i> values	0.0014	0.0044	0.3088	0.4401	0.0145

Note: 1. *, ** and *** are significant at the level of 10%, 5% and 1% respectively, and the brackets are standard deviations. 2. Control variables are not listed due to space limitations.

7. Conclusion and Policy Recommendation

Based on the data of Chinese household finance survey, this paper constructs indexes of investment product exclusion, credit product exclusion and financial exclusion through factor analysis method. Empirical research finds that individual inflation expectation has a significant positive relationship with residents' investment product exclusion, credit product exclusion and financial exclusion. The increase of inflation expectation can significantly increase the probability of residents' rejection of investment products, credit products and finance. Economic information plays a moderating role in this process, but only in the group with high inflation expectation, economic information can significantly reduce residents' financial exclusion; Further, the study found that the individual inflation expectations for investment products exclusion, credit products and financial exclusion has the heterogeneity, the other in terms of investment products to choose, rising inflation expectations could significantly improve residents' low risk allocation of the financial product, reduce the risk of financial product allocation, in terms of credit product selection, Household inflation expectations significantly increased the proportion of consumer loans.

The results of this study have important policy implications. Inflation expectations management is always the focus when the government macro-control, the residents of the stable inflation expectations in addition to form stable prices, will also improve the incidence of microscopic main body of financial exclusion, other studies have shown that economic and financial information and existing knowledge can reduce the residents' financial exclusion, But the improvement in the group of higher inflation expectations will be significant, in addition, individual inflation expectations also lowered the residents on the financial risk assets allocation, increase the consumer loan allocation, therefore in the process of reducing the rate of residents' financial exclusion government should attach great importance to the important role of inflation expectations, Maintaining price stability can make individuals from stable expectations and risk attitudes. In addition, in the social environment with high inflation expectations, we should carry out multi-channel financial knowledge education, timely disseminate and continuously update economic and financial information to the public, reduce the cost of residents searching for economic information, improve financial exclusion, and realize inclusive finance.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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