# The Impact of Consumer Credit on Household Education Investment — Empirical Research Based on CHFS Data

**Yujie Shang**

Beijing Technology and Business University, Beijing, China
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**Abstract:** This article employs the 2019 China Household Finance Survey data to empirically investigate the impact of consumer credit on household education investment. The research reveals that an increase in consumer credit significantly boosts household education investment. Furthermore, the study examines the mechanisms through which consumer credit influences this investment, identifying that it operates by affecting household consumption and total expenditure. The effects are particularly pronounced in households that are risk-averse and have higher incomes. This article offers fresh insights into the interplay between consumer credit, household consumption, and education investment, thereby suggesting new avenues for research on household education investment.

***Keywords*:** household consumption, consumer credit, household education investment, educational level

## 1. Introduction

Family education is the foundation of the national education system, exerting a decisive influence on the formation of an individual's socio-economic status and serving as a key to the prosperity and development of the family. With societal progress, the investment in family education is increasingly valued. A deeper investigation into the factors affecting family education can help us better understand this domain. Although existing research has touched upon factors such as gender, health, and family income, there is still a need to strengthen the study of other potential factors, which provides ample room for future research.

In 2022, consumption expenditure contributed significantly to economic growth, accounting for 65.4% of GDP, highlighting its importance as a new driver of economic growth. Credit, as a catalyst for stimulating consumption, plays a dual role in the national economic transformation and family financial life. The role of consumer credit in family financial behavior is becoming increasingly prominent, yet research on its impact on family investment is still insufficient, offering opportunities for further exploration.

Based on these two realities, this paper aims to establish a connection between consumer credit and investment in family education, focusing on the financial behavior of families being influenced by consumer credit in their educational investment patterns. The study finds that consumer credit has a significant positive impact on educational investment, which is more pronounced in risk-averse and high-income families. Financial behavior associated with consumer credit increases total household consumption expenditure, thereby affecting the household's budget constraints and subsequently driving an increase in family educational investment. This result remains consistent under a series of robustness tests and instrumental variable estimations.

The potential contributions of this paper include: (1) enriching the factors influencing family educational investment by discussing the impact of consumer credit on educational investment; (2) proposing and testing the mechanism through which consumer credit affects family educational investment.

## 2. Literature Review

Two streams of literature are closely related to this paper. The first stream concerns the impact of consumer credit on human capital investment, analyzing the financial behavior of household investment through the use of credit cards (Song Hong, Zhang Qing, Lu Yi, 2023), including investments in human capital, cultural and educational investments, and investments in healthy food. The study found that the use of credit cards significantly increased household investment in human capital, and this effect has a long-term dynamic impact, being more pronounced in urban, high-income, and highly educated families. This suggests that consumer credit may increase inequality in human capital.

The second stream of literature focuses on the main factors affecting investment in family education, exploring the impact on educational investment by analyzing household consumption (Huang Shan, Tang Yong, 2018) and household borrowing constraints (Li Lixing, Zhou Guangsu, 2014). The research found that most middle and low-income families treat educational expenditure as a regular commodity, with educational spending being directly proportional to household income. In contrast, most high-income families tend to view educational expenditure as a luxury, with wealthier families being more willing to pay higher educational costs. Furthermore, borrowing constraints have indeed increased the intergenerational elasticity of income and education, reducing social mobility. Public educational expenditure can alleviate the insufficiency of human capital investment at the household level and enhance the mobility of educational levels.

# 3. Data, Variables, and Model

## 3.1 Data

This study employs data from the 2019 China Household Finance Survey (CHFS) to examine the impact of consumer credit on family education investment. The CHFS is a large-scale nationwide household survey with a representative sample of households across China. The survey primarily investigates demographic characteristics, employment and income status of household members, household assets and liabilities, household consumption, and subjective attitudes of the household.

## 3.2 Variable Definitions

Explanatory Variable: Consumer Credit - This is assessed by analyzing the extent of household use of credit cards. High Consumer Credit Household (1 for yes, 0 for no): 1 indicates the household possesses a credit card with a credit limit exceeding 200,000 RMB; 0 indicates the household has no credit card or a credit card with a limit ranging from 1,000 to 200,000 RMB.

Dependent Variable: Family Education Investment - This is determined by analyzing the financial expenditure on education by a household in the past year. Based on key literature, the average annual educational expenditure for Chinese families is approximately 3,000 RMB. Therefore, households with educational expenses exceeding 3,000 RMB in the past year are classified as high education investment households, while those with expenses between 0 and 3,000 RMB are not.

Reference Variables: The study also references research on variables such as family education level, family age structure, family income, family net assets, marital status, child support rate, total household assets, and risk attitude, as found in studies by Song Hong, Zhang Qing, Lu Yi; and Huang Shan, Tang Yong.

**Table 1. Descriptive Statistics of Variables**

| variable | N | sd | mean | min | max |
|---|---|---|---|---|---|
| credit | 34000 | | 0.00600 | 0 | 1 |
| educational | 35000 | 0.444 | 0.269 | 0 | 1 |
| riskadverse | 28000 | 0.415 | 0.778 | 0 | 1 |
| age | 35000 | 21.67 | 48.76 | 0 | 102 |
| male | 35000 | 0.500 | 0.503 | 0 | 1 |
| edu | 31000 | 4.630 | 9.075 | 0 | 22 |
| ln_totalas~t | 31000 | 0.434 | 0.749 | 0 | 1 |
| family_size | 35000 | 1.543 | 3.089 | 1 | 15 |
| children_r~e | 35000 | 0.163 | 0.103 | 0 | 0.833 |

## 3.3 Empirical analysis model

The dependent variable Y represents educational investment, the explanatory variable X represents consumer credit, and C represents control variables, with  denoting the stochastic error term. The regression results are as follows.

# 4. Empirical Results

Table 2 presents the impact of consumer credit on family education investment. All three columns in the table utilize the Ordinary Least Squares (OLS) model to estimate the effect of consumer credit on family education investment, reflecting a significant positive correlation between consumer credit and family education investment, indicating that an increase in consumer credit can enhance family investment in education. Specifically, the estimated coefficient in the first column is 0.296, which is significant at the 1% level.

Upon closer examination, the increase in variables such as family risk aversion, child support rate, total family assets, family consumption expenditure, and educational attainment can all significantly increase family education investment at the 1% level.

**Table 2. The Impact of Consumer Credit on Education Investment**

| | (1)<br>educational | (2)<br>educational | (3)<br>educational |
|---|---|---|---|
| credit | 0.296*** | 0.184*** | 0.138*** |
| | (9.20) | (5.37) | (4.35) |
| riskadverse | | -0.072*** | -0.050*** |
| | | (-11.10) | (-8.22) |
| age | | -0.008*** | -0.003*** |
| | | (-44.37) | (-16.30) |
| male | | -0.008 | -0.008 |
| | | (-1.63) | (-1.61) |
| edu | | 0.003*** | 0.007*** |
| | | (4.84) | (10.53) |
| marriage | | 0.075*** | -0.039*** |
| | | (12.22) | (-6.61) |
| ln_totalasset | | | 0.011*** |
| | | | (7.27) |
| family_size | | | 0.089*** |
| | | | (41.64) |
| children_rate | | | 0.469*** |
| | | | (22.57) |
| _cons | 0.267*** | 0.637*** | -0.031 |
| | (111.54) | (44.03) | (-1.35) |
| N | 34404 | 24600 | 24600 |
| r2 | 0.002 | 0.118 | 0.250 |
| r2_a | 0.00 | 0.12 | 0.25 |
| F | 84.581 | 548.727 | 908.781 |

Note: *** denotes statistical significance at the 1% level, ** denotes statistical significance at the 5% level, and * indicates statistical significance at the 10% level.

From the results presented in the table below, it can be observed that in risk-averse households, the coefficient of consumer credit is significantly positive at the 1% level, indicating that consumer credit significantly increases educational investment in risk-averse households. In non-risk-averse households, the coefficient of consumer credit is not significant at the 10% level, suggesting that consumer credit does not have a significant effect on educational investment in non-risk-averse households.

The results from the table below indicate that in high-income households, the coefficient for consumer credit is significantly positive at the 1% level, which suggests that consumer credit significantly increases educational investment in high-income households. In contrast, the coefficient for consumer credit in low-income households is not significant at the 10% level, indicating that there is no significant impact of consumer credit on educational investment in low-income households.

**Table 3. Heterogeneous Analysis of the Impact of Income Level and Risk Aversion on Educational Investment**

| | educational | educational | educational | educational |
|---|---|---|---|---|
| credit | 0.203*** | 0.065 | 0.152*** | -0.025 |
| | (3.52) | (1.31) | (3.90) | (-0.20) |
| age | -0.003*** | -0.003*** | -0.003*** | -0.001** |
| | (-14.04) | (-6.60) | (-16.42) | (-2.12) |
| male | -0.007 | -0.007 | -0.001 | -0.046*** |
| | (-1.42) | (-0.57) | (-0.26) | (-3.16) |

| | educational | educational | educational | educational |
|---|---|---|---|---|
| edu | 0.006*** | 0.010*** | 0.007*** | 0.005** |
| | (9.06) | (5.79) | (10.85) | (2.42) |
| marriage | -0.041*** | -0.036** | -0.061*** | 0.094*** |
| | (-6.55) | (-2.42) | (-9.96) | (5.19) |
| ln_totalasset | 0.008*** | 0.026*** | 0.010*** | 0.014*** |
| | (5.37) | (6.27) | (7.06) | (2.87) |
| family_size | 0.090*** | 0.088*** | 0.092*** | 0.068*** |
| | (29.02) | (16.10) | (32.01) | (9.48) |
| children_rate | 0.458*** | 0.484*** | 0.454*** | 0.484*** |
| | (14.05) | (9.84) | (15.46) | (7.06) |
| riskadverse | | | -0.046*** | -0.062*** |
| | | | (-6.30) | (-3.31) |
| _cons | -0.031 | -0.253*** | 0.002 | -0.143** |
| | (-1.35) | (-4.73) | (0.09) | (-2.00) |
| N | 19401 | 5199 | 21318 | 3282 |
| r2 | 0.252 | 0.193 | 0.270 | 0.167 |
| r2_a | 0.25 | 0.19 | 0.27 | 0.16 |
| F | 622.670 | 177.747 | 731.536 | 73.463 |

Note: *** represents $p < 0.01$, ** represents $p < 0.05$, and * represents $p < 0.1$. The values within parentheses are t-values.

# 5. Mechanism Analysis

From the first column of the table below, it can be observed that the coefficient for consumer credit is significant at the 1% level, indicating that consumer credit significantly promotes educational investment. The second column of the table shows that the coefficient for consumer credit is also significant at the 1% level, suggesting that consumer credit significantly increases household consumption. The third column reveals that the coefficient for household consumption expenditure is significantly positive at the 1% level, indicating that household consumption significantly promotes educational investment.

In summary, consumer credit facilitates educational investment by increasing household consumption.

**Table 4. Mechanism Verification**

| | (1) educational | (2) expenses | (3) educational |
|---|---|---|---|
| credit | 0.138*** | 0.152*** | 0.119*** |
| | (3.64) | (7.87) | (3.17) |
| expenses | | | 0.120*** |
| | | | (20.46) |
| riskadverse | -0.050*** | -0.092*** | -0.039*** |
| | (-7.28) | (-13.29) | (-5.72) |
| age | -0.003*** | -0.001*** | -0.003*** |
| | (-15.66) | (-3.39) | (-15.33) |
| male | -0.008 | -0.024*** | -0.005 |
| | (-1.60) | (-4.36) | (-1.01) |
| edu | 0.007*** | 0.020*** | 0.005*** |
| | (11.04) | (27.49) | (7.07) |
| marriage | -0.039*** | 0.040*** | -0.044*** |
| | (-6.77) | (6.01) | (-7.67) |
| ln_totalasset | 0.011*** | 0.084*** | 0.001 |
| | (7.95) | (46.13) | (0.89) |
| family_size | 0.089*** | 0.065*** | 0.081*** |
| | (33.24) | (26.35) | (30.26) |

| | (1)<br>educational | (2)<br>expenses | (3)<br>educational |
|---|---|---|---|
| children_rate | 0.469*** | 0.164*** | 0.450*** |
| | (17.37) | (6.88) | (16.88) |
| _cons | -0.031 | -0.936*** | 0.081*** |
| | (-1.41) | (-35.74) | (3.68) |
| N | 24600 | 24600 | 24600 |
| r2 | 0.250 | 0.273 | 0.263 |
| r2_a | 0.25 | 0.27 | 0.26 |
| F | 796.472 | 1547.807 | 783.921 |

## 6. Robustness Analysis

By adjusting the definition of the explanatory variable, this study assesses whether a household is a high consumer credit user by analyzing the extent of their use of financial investment products, replacing the previous measure of credit card usage. The results are as follows.

It can be seen that the coefficient for financial investment products remains significantly positive at the 1% level, indicating that the study's conclusion that consumer credit promotes educational investment is robust.

**Table 5. The Impact of Financial Investment Products on Educational Investment**

| | (1)<br>educational |
|---|---|
| product | 0.037*** |
| | (3.78) |
| riskadverse | -0.049*** |
| | (-7.10) |
| age | -0.003*** |
| | (-15.91) |
| male | -0.008* |
| | (-1.68) |
| edu | 0.007*** |
| | (10.41) |
| marriage | -0.040*** |
| | (-6.85) |
| ln_totalasset | 0.010*** |
| | (7.00) |
| family_size | 0.089*** |
| | (33.45) |
| children_rate | 0.468*** |
| | (17.34) |
| _cons | -0.014 |
| | (-0.62) |
| N | 24648 |
| r2 | 0.249 |
| r2_a | 0.25 |
| F | 795.866 |

## 7. Conclusion and Recommendation

This study utilizes microdata from the China Household Finance Survey to delve into how consumer credit affects family education investment and reveals the underlying mechanisms of this impact through empirical analysis. The findings indicate that the growth of consumer credit significantly promotes an increase in family education investment. This phenomenon suggests that consumer credit provides a more solid economic foundation for family education investment by enhancing the family's consumption capacity and alleviating borrowing pressure. This discovery is of significant importance for understanding the relationship between family financial behavior and educational decision-making. Particularly in risk-averse and high-income families, the impact of consumer credit is more pronounced, indicating that these families exhibit higher efficiency and enthusiasm in utilizing credit resources and valuing educational investment. They may be more inclined to allocate credit resources to educational investment, expecting long-term economic and social returns through improving their children's education levels.

Compared to existing literature, this study not only identifies consumer credit as a new factor affecting educational investment but also fills the research gap on the relationship between consumer credit and family education investment by precisely defining and rigorously validating variables, providing new theoretical perspectives and empirical evidence. This enriches the research in the fields of family finance and educational economics and offers new directions and methodological references for subsequent studies.

On a broader level, consumption, as a key driver of national economic development, plays an indispensable role in the field of education. This study further emphasizes the pivotal role of consumer credit in promoting educational investment, enhancing the quality of education, and driving social progress. By optimizing credit policies and guiding the rational allocation of credit resources, the enthusiasm for family education investment can be stimulated, thereby injecting new vitality into the nation's long-term development. This contributes not only to improving the overall educational level of the population but also to laying a solid foundation for building a knowledge-based society and achieving sustainable development goals.

In summary, this study not only provides new insights into the role of consumer credit in family education investment but also holds significant theoretical and practical implications for promoting educational equity, improving educational quality, driving socio-economic development, and achieving sustainable development goals.

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## Author Bio


Yujie Shang (October 2001-), female, Han ethnicity, born in Beijing, Beijing Technology and Business University; Research major: Finance.