

# Can Online Social Network Promote Residents' Consumption

## —Proven by the Micro Data from 27,632 Chinese Households

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### Abstract

Our research aim is to analyze the impact of rural and urban households' online social network on their daily consumption, and tests the most important transmission mechanism—credit constraint mechanism in it, and we use the micro data sample of China Household tracking survey (CFPS) to achieve it. Furthermore, we compare the impact of formal finance and informal finance on household consumption's differences in response. The conclusion shows that: 1) online “group culture” has formed a new type of social capital in China, and has an impact on traditional social networks; 2) there are significant regional differences in the impact of online social networks on consumer credit; 3) the improvement of credit consumption is more driven by Internet technology, and the impact of formal financial institutions on consumer spending is declining. The impact of Internet technology innovation on the improvement of household credit consumption power is constantly improving, and more and more Chinese households get consumer credit support through online social networks.

### Keywords

Online Social Network, Internet Technology, Credit Consumption

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## 1. Introduction

With the influence of counter-cyclical policy adjustment and supply side reform, the growth of China's economy has slowed down slightly since 2019. Meanwhile, under the background of China-US economic and trade frictions and the transformation of domestic economic structure, China's economy lacks endogenous growth drivers and some underlying problems and conflicts, such as the struc-

tural disequilibrium, intensifies. In 2019, as a dominant endogenous growth driver, the domestic consumption influences China's overall economy less significantly. Related data shows that the domestic consumption accounts for 60% of China's GDP in 2019, with a drop of 18pp year on year. At present, increasing residents' consumption potential is significant for promoting China's economic vitality.

With the maturation of China's internet technologies, online social networks facilitate the formation and accumulation of China's new social capital and have a revolutionary influence on social and economic development [1]. The *44th Statistical Reports on Internet Development in China* published by China Internet Network Information Center (CNNIC) shows that by June 2019, the number of Chinese netizens reached 854 million, increasing by 25.98 million over the end of 2018, and the internet penetration rate reached 61.2%, increasing by 1.6pp. The number of online shoppers reached 659 million, accounting for 74.8% of Chinese netizens. Judging from this, internet technologies have become the major driver of the transformation and upgrading of consumption structure.

How great is the influence of internet technologies and online social networks on resident consumption? This paper focuses on studying the effective ways to utilize the internet to promote residents' consumption.

## **2. Literature Review**

### **2.1. Functions of Social Networks**

The emerging of the internet removes the space limitations of China's traditional social networks, expands the network space and raises the network linking speed and efficiency [2]. Therefore, the internet technologies will enhance social networks' functions in individual economic decision making and may replace traditional social networks to some extent [3]. Many studies have demonstrated that social networks have positive impact on information collection, trust building, social security, loan constraint remission and other aspects. Stable social networks can remove the information asymmetry among individuals and establish effective supervision mechanisms, avoid moral hazards and reduce opportunistic behaviors through member screening and group pressure [4] [5]. Besides, stable social networks can offer guarantee to ease the fluctuation of consumption level and reduce the income risks through risk sharing after the occurrence of risks [6] [7] [8].

### **2.2. Factors Affecting the Resident Consumption**

One of the important factors that influence the consumption is income level. The absolute income hypothesis and life cycle hypothesis explain the above theory. Many empirical studies find that changes in the consumption expenditure are closely related to the income level. There are loan constraints and frictions in the financial market and thus consumers can't borrow loans and conduct inter-temporal consumption smoothly. Domestic and foreign scholars have

conducted many analyses and tests on the relation between loan constraints and household consumption. The conclusions indicate that loan constraints have significant influence on consumption decisions. Huang & Yin [9] studied the micro data in China Household Finance Survey (CHFS) and found that normal loan constraints significantly suppressed the household consumption and the suppression on households with different incomes and in different life cycles varied. Qiu & Hu [10] utilized the survey data about over 4000 Chinese peasant households to check the loan constraints' influence on the consumption structures of peasant households. They found that loan constraints restricted the proportion of the improvement expenditure (such as the expenditure in durable goods) among the total expenditure of households in east China, making the consumption structures worse.

Judging from the existing literature, the studies on the relation between internet and household consumption are limited at present [3] [7] [11]. The analyses of the Internet's influence on the consumption expenditure from the perspective of social capital formation are inadequate. Therefore, this paper empirically demonstrates the relation between the internet and household consumption, combs through related theories and puts forward the hypothesis that the internet can be utilized to establish new-type social networks, thus increasing the consumption expenditure of households by loan constraints mitigation. This paper utilizes the micro data collected by China Family Panel Studies (CFPS) of 2010, 2014, 2016 and 2018 to empirically analyze the topic.

### 3. Empirical Analysis

#### 3.1. Model, Data and Variable Selection

##### 1) Model

To check whether online social networks can promote the household consumption expenditure through loan constraints mitigation, referred to the related literature [11], this paper utilizes the phased multiple linear regression model to conduct empirical analysis. The specific form of the model is as follows.

$$\begin{aligned} \text{Ln\_expense}_{iv} = & \alpha_0 + \beta_1 \text{D\_inter}_{jv} + \beta_2 \text{D\_exdebt}_{iv} \\ & + \beta_3 \text{D\_inter}_{jv} \times \text{D\_exdebt}_{iv} + X_{iv} + Z_{jv} + \delta_v + \varepsilon_{iv} \end{aligned}$$

wherein,  $\text{Ln\_expense}_{iv}$  represents the logarithm of consumption expenditure of the household  $i$ .  $\text{D\_inter}_{jv}$  represents the online social network usage level of the household head  $j$  and  $\text{D\_exdebt}_{iv}$  represents the consumption loan held by the household  $i$ .  $\text{D\_inter}_{jv} \times \text{D\_exdebt}_{iv}$  represents the interaction terms. This paper focuses on testing the size and significance level of coefficients.  $X_{iv}$  and  $Z_{jv}$  respectively represent the characteristics variables of household and household head individual.  $\delta_v$  represents the province-controlled variables and  $\varepsilon_{iv}$  represents the random error terms, including unobservable factors.

##### 2) Data and variables

The micro data utilized by this paper is mainly from the CFPS that is con-

ducted by Institute of Social Science Survey, Peking University and funded by “985” Project of Peking University, China. Institute of Social Science Survey started to survey households in Beijing, Shanghai and Guangdong in 2008 and started the nationwide baseline survey in 2010. Four panel surveys were conducted respectively in 2012, 2014, 2016 and 2018, focusing on the relation among family members, household economic activities, healthcare, elderly care, etc. The survey questionnaires were mainly divided into four types, orienting to communities, households, adults and children respectively. On this basis, various questionnaires oriented to different family members, such as long questionnaires, short ones, pick-up questionnaires and telephone survey questionnaires, were developed.

Due to the lack of questions about households’ usage of internet in the questionnaire of 2014, this paper comprehensively utilizes the data collected by surveys in 2010, 2014, 2016 and 2018 and takes the households interviewed in all of the four surveys as the study objects. The surveys obtained the micro data about 27,632 households from 27 provinces, cities and autonomous regions around China and the survey objects included the members of interviewed households.

The variables that this paper involves are explained below.

### **1) Core variables**

In this paper, the explained variable is the household consumption expenditure and there are three main explanatory variables. The first is the online social network. Online social networks are different from traditional social networks. Using related studies for reference, the “Online social networks” in this paper indicates the family members’ usage of the mobile internet. The CFPS includes questions about family members’ usage of the internet through cell phones and computers. The specific questions are as follows. “Do you surf the internet through mobile devices, including cell phones and tablet computers?” “Do you surf the internet through computers?” If the answer to at least one of the two questions is “yes”, the variable evaluating the households’ online social networks will be 1. If not, the variable will be 0. The second variable is the availability of household consumption loan. The variable is measured in terms of the answer to the question whether households have other consumption loans in addition to the house loan. If the answer is “yes”, the variable will be “1”. Otherwise, it will be “0”. The third variable is the number of licensed provincial formal financial institutions. To check whether there is an alternative relation between the influence of the popularity of formal finance and online social networks on the household consumption expenditure, this paper utilizes the number of licensed provincial formal financial institutions to evaluate the formal financial level. Related data are offered by China Banking and Insurance Regulatory Commission.

### **2) Control variables**

According to the existing related literature, this paper takes household head characteristics variables (such as the gender, age, marriage status, education level and health condition level), household characteristics variables (such as the fam-

ily size and per capita net income last year) and province-controlled variables.

**Table 1** lists main variables involved in this paper and explains the assignment. **Table 2** and **Table 3** respectively list the descriptive statistics of urban and rural variables among different years.

Judging from the statistical results of core variables in this paper, the consumption expenditure of all households increases year by year and the expenditure of urban households is higher than that of rural ones. Meanwhile, the online social network usage level of all family members keeps increasing and the average level of urban family members increased from 0.04 in 2010 to 0.37 in 2018. This indicates that the mobile internet becomes more popular for rural residents and the informationization degree in rural areas intensifies. As for urban households, the average usage level of online social network increased to 0.60 in 2018 from 0.21 in 2010, significantly higher than the average usage level in rural areas. The result is consistent with the reality. From the lens of household consumption loan, the proportion of rural households that borrow consumption loans is higher than that of urban households who borrow consumption loans. The average proportion of rural households that borrow consumption loans was 29% in 2010, hitting a record high. The average proportion decreased to 21% in 2014 and 2016, and then slightly increased to 24% in 2018. In comparison, the average proportion of urban households that borrow household consumption

**Table 1.** Designation and definition of variables.

Designation	Symbol	Definition
<b>Core variable</b>		
Household consumption expenditure	Ln_expense	Logarithm of the household consumption expenditure
Online social network	D_inter	If household head surfs the internet through cell phones or computers, the variable = 1; otherwise, the variable = 0
Number of formal financial institutions	finstitution	Number of provincial formal financial institutions
Availability of household consumption loans	D_exdebt	If households have consumption loans in addition to the house loan, the variable = 1; otherwise, the variable = 0
<b>Household head characteristics variables</b>		
Age	age	Age of the household head
Gender	gender	Male = 1; female = 0
Educational level	edu	Uneducated = 1, primary school = 2, middle school = 3, high school = 4, junior college = 5, regular college = 6, master's degree = 7, doctor's degree = 8
Marriage status	marry	Married = 0, unmarried = 1
Employment status	employ	Employed = 1, unemployed = 0
Health level	health	Healthy = 1, average level = 2, less healthy = 3, unhealthy = 4, extremely unhealthy = 5
<b>Household characteristics variables</b>		
Family size	Familysize	Number of family members
Family net income	Ln_fincome	Logarithm of family income

**Table 2.** Descriptive statistics of rural household sample variables.

Designation	2010		2014		2016		2018	
	Mean	St.d	Mean	St.d	Mean	St.d	Mean	St.d
Household consumption expenditure	9.54	0.85	10.06	0.92	10.16	0.94	10.36	0.90
Online social network	0.04	0.18	0.09	0.29	0.17	0.38	0.37	0.48
Availability of household consumption loans	0.29	0.45	0.21	0.41	0.21	0.41	0.24	0.43
Age	50.18	12.28	52.28	12.65	54.25	12.28	51.84	14.28
Gender	0.80	0.40	0.70	0.46	0.70	0.46	0.77	0.99
Educational level	2.15	1.03	1.99	1.51	2.12	1.03	-3.37	5.92
Marriage status	1.93	1.09	3.12	1.29	3.26	1.26	3.18	1.28
Employment status	0.89	0.31	0.88	0.33	0.88	0.33	0.85	0.97
Health level	0.65	0.48	0.83	0.38	0.83	0.38	1.28	1.05
Family size	4.14	1.82	4.13	1.96	4.12	2.02	3.86	2.00
Family net income	0.99	0.41	1.10	0.37	0.80	0.46	9.25	1.00

Data Source: calculation results by the author.

**Table 3.** Descriptive statistics of urban household sample variables.

Designation	2010		2014		2016		2018	
	Mean	St.d	Mean	St.d	Mean	St.d	Mean	St.d
Household consumption expenditure	10.04	0.80	10.59	0.86	10.73	0.92	10.92	0.85
Online social network	0.21	0.41	0.28	0.45	0.39	0.49	0.60	0.49
Availability of household consumption loans	0.15	0.36	0.15	0.36	0.14	0.34	0.18	0.39
Age	50.50	13.58	52.53	13.34	54.43	12.98	49.02	15.56
Gender	0.66	0.47	0.56	0.50	0.57	0.50	0.56	0.53
Educational level	3.00	1.39	2.76	1.85	2.88	1.34	2.22	6.47
Marriage status	1.80	0.93	3.15	1.15	3.23	1.15	3.11	1.14
Employment status	0.86	0.35	0.85	0.35	0.85	0.35	0.86	0.93
Health level	0.51	0.50	0.63	0.48	0.62	0.49	1.55	1.20
Family size	3.40	1.53	3.53	1.66	3.58	1.72	3.35	1.78
Family net income	0.89	0.45	1.05	0.37	0.78	0.46	10.08	1.00

Data Source: calculation results by the author.

loans in the urban samples was only about 15%. This is mostly because urban households are wealthier than rural households on the whole.

Statistical results of control variables show that the heads of the household samples are mostly male. These men, with the average age of around 50, have a middle school or high school diploma. Most of them are in employment and

good health. Besides, of all household samples, married-couple households are in the majority. The family size of rural households averages 4.10, larger than that of urban households. However, the net income of urban households is obviously higher than that of rural households.

### 3.2. Empirical Result

This paper tests the impact of internet utilization on household consumption expenditure. According to CNNIC's statistical survey on internet development in China, as of June 2019, the proportion of rural netizens in Chinese netizens was 26.3%, far below that of urban netizens. Given this, this paper analyzes and tests the rural and urban samples separately, so as to avoid possible heteroscedasticity of the whole test results. The empirical results of the rural and urban household samples are shown in **Table 4** and **Table 5**. **Table 4** shows that online social network can remarkably promote the increase in household consumption expenditure, and the regression coefficient of each phase is positive at the significance level of 1%. From the perspective of regression results of interaction terms, namely, online social network and household consumption loan, the regression coefficients in 2010 and 2014 are positive. This demonstrates that mobile internet utilization can enhance the possibility of households borrowing consumption loans and thus promote household consumption expenditure, which is in accord with the theoretical analysis conclusion of the paper. While the regression coefficients in 2016 and 2018 are negative. This is probably because, with the acceleration of urbanization in China, an increasing number of rural youth move into cities and are registered as permanent urban population by the government during the statistics. As a result, people left behind in rural areas are mostly the middle-aged and elderly, most of whom purchase with cash because they aren't proficient in using the internet.

The regression results of control variables indicate that for female household heads who are married and in employment, the older and the more educated they are and the worse their physical health is, the higher their consumption expenditure is. Besides, for households, the more members are and the higher the total income is, the higher their consumption expenditure is. The same is true in reality. Specifically, consumption expenditure includes households' purchases of products for their everyday needs such as food, clothing and health care. For households, heads of which are old and in bad health, the spending on health care will increase, and for households, the more the members are, the higher the cost of living is and the heavier the burden of living is. In addition, the households with higher income will have higher-quality consumption demand, and their consumption expenditure will be enhanced accordingly.

**Table 5** shows regression results of urban household samples. In terms of regression results of core explanatory variables, the regression coefficient of online social network of urban household samples is significantly positive, well above that of rural household samples. This shows that the mobile internet penetration

into urban households is relatively higher and online social network plays a big role in urban households' daily lives, with the influence being the greatest in 2014. The regression results of interaction terms indicate that the regression coefficients in 2010 and 2014 aren't significant and those in 2016 and 2018 are significantly positive. These results differ greatly from those of rural household samples. This possible reason is, before 2014 Chinese urban residents had better

**Table 4.** Regression results of rural household samples.

	(1) 2010	(2) 2014	(3) 2016	(4) 2018
Online social network	0.294*** (0.062)	0.331*** (0.049)	0.347*** (0.041)	0.235*** (0.026)
Consumption loan	0.236*** (0.021)	0.210*** (0.031)	0.299*** (0.033)	0.222*** (0.029)
Online social network * Consumption loan	0.227** (0.111)	0.170* (0.094)	-0.257*** (0.076)	-0.053 (0.043)
Age	0.049*** (0.005)	0.025*** (0.007)	0.026*** (0.008)	0.005 (0.004)
Age2	-0.001*** (0.000)	-0.0004*** (0.000)	-0.0003*** (0.000)	-0.0001*** (0.000)
Gender	0.029 (0.025)	0.010 (0.026)	0.007 (0.028)	-0.009** (0.005)
Edu	0.112*** (0.009)	0.028*** (0.008)	0.097*** (0.013)	0.004** (0.002)
Health	0.008 (0.009)	0.006 (0.009)	0.029*** (0.010)	0.023*** (0.007)
Marry	0.294*** (0.033)	0.311*** (0.039)	0.269*** (0.039)	0.065*** (0.010)
Employ	-0.0001 (0.020)	-0.044 (0.035)	-0.041 (0.036)	0.043*** (0.009)
Familysize	0.123*** (0.006)	0.147*** (0.007)	0.135*** (0.006)	0.167*** (0.005)
Ln_income	0.154*** (0.023)	0.145*** (0.032)	0.172*** (0.026)	0.301*** (0.010)
Cons	7.922*** (0.204)	9.092*** (0.250)	8.760*** (0.286)	7.310*** (0.244)
N	6142	4497	4382	5741
R-sq	0.292	0.319	0.297	0.425

Note: The figures in brackets are robust standard deviation; \*, \*\* and \*\*\* represent significance level at 10%, 5% and 1% respectively, similarly hereinafter.



**Table 5.** Regression results of urban household samples.

	(1) 2010	(2) 2014	(3) 2016	(4) 2018
Online social network	0.346*** (0.027)	0.471*** (0.031)	0.369*** (0.033)	0.243*** (0.022)
Consumption loan	0.200*** (0.028)	0.069* (0.041)	0.141*** (0.048)	0.140*** (0.039)
Online social network * Consumption loan	0.072 (0.062)	0.064 (0.072)	0.146** (0.072)	0.075* (0.046)
Age	0.003 (0.004)	0.013** (0.006)	0.016** (0.007)	0.009** (0.004)
Age2	-5.13e-05 (0.000)	-0.0002*** (0.000)	-0.0002** (0.000)	-0.000*** (0.000)
Gender	-0.043** (0.019)	-0.038 (0.024)	-0.118*** (0.026)	0.006 (0.004)
Edu	0.174*** (0.008)	0.062*** (0.007)	0.141*** (0.011)	0.005** (0.002)
Health	0.004 (0.009)	-0.004 (0.011)	-0.001 (0.011)	0.019*** (0.008)
Marry	0.264*** (0.028)	0.271*** (0.035)	0.282*** (0.038)	0.055*** (0.009)
Employ	0.002 (0.020)	0.106*** (0.029)	0.191*** (0.031)	0.041*** (0.008)
Familysize	0.123*** (0.007)	0.145*** (0.008)	0.145*** (0.008)	0.198*** (0.005)
Ln_income	0.168*** (0.020)	0.170*** (0.032)	0.199*** (0.027)	0.431*** (0.009)
Cons	9.077*** (0.136)	9.706*** (0.190)	9.617*** (0.231)	5.795*** (0.156)
N	5698	4031	3984	6114
R-sq	0.346	0.317	0.320	0.461

access to loans from formal financial institutions and mainly borrowed consumption loans from these institutions, and thus were less dependent on online social network to get loans. In recent years, a growing number of rural population have moved into cities with the acceleration of urbanization in China, and the proportion of new urban population getting loans via online social network has thus started to go up.

The regression results of control variables of urban household samples are consistent with those of rural household samples, and thus won't be detailed in this paper.

### 4. Further Discussion

A great number of studies have verified that social capital influences the economic and social development as an informal institution [12] [13]. With the wide application of internet technologies, is there any difference between informal and formal institutions in terms of the role in social change? Can the two institutions substitute for each other in this regard? Based on the above analysis, this paper further discusses whether there is substitution effect between the development of formal financial institutions and online social network and also conducts the corresponding empirical testing. The specific form of the model is as follows.

$$\text{Ln\_expense}_{iv} = \alpha_0 + \beta_1 \text{D\_inter}_{jv} + \beta_2 \text{D\_exdebt}_{iv} + \beta_3 \text{D\_inter}_{jv} \times \text{D\_exdebt}_{iv} + \beta_4 \text{finstitution}_v + \beta_5 \text{finstitution}_v \times \text{D\_exdebt}_{iv} + X_{iv} + Z_{jv} + \delta_v + \varepsilon_{iv}$$

wherein,  $\text{finstitution}_v$  represents the number of formal financial institutions in province, and  $\text{finstitution}_v \times \text{D\_exdebt}_{iv}$  represents the interaction term of formal financial institutions and household consumption loan. Here the key is to test the size and significance level of  $\beta_5$  and  $\beta_3$ .

Similarly, this paper respectively conducts empirical testing on rural and urban household samples. Related regression results are shown in the following **Table 6** and **Table 7**, in which the regression results of control variables aren't

**Table 6.** Regression results of rural household samples.

	(1) 2010	(2) 2014	(3) 2016	(4) 2018
Online social network	0.295*** (0.061)	0.331*** (0.049)	0.346*** (0.041)	0.234*** (0.026)
Consumption loan	0.252*** (0.032)	0.197*** (0.059)	0.173** (0.078)	0.171*** (0.051)
Online social network * Consumption loan	0.227** (0.111)	0.171* (0.094)	-0.257*** (0.076)	-0.050 (0.043)
Formal financial institutions	-0.004*** (0.001)	-0.014*** (0.004)	-0.001** (0.001)	-0.006** (0.002)
Consumption loan * Formal financial institutions	-6.09e-05 (0.000)	5.63e-05 (0.000)	0.0003* (0.000)	0.0002 (0.000)
Household head characteristics variables	Control	Control	Control	Control
Household characteristics variables	Control	Control	Control	Control
Region	Control	Control	Control	Control
N	6142	4496	4381	5738
R-sq	0.292	0.318	0.297	0.425

**Table 7.** Regression results of urban household samples.

	(1) 2010	(2) 2014	(3) 2016	(4) 2018
Online social network	0.346*** (0.027)	0.470*** (0.031)	0.370*** (0.033)	0.241*** (0.022)
Consumption loan	0.187*** (0.040)	-0.085 (0.075)	0.228** (0.090)	0.199*** (0.056)
Online social network * Consumption loan	-0.071 (0.062)	0.058 (0.072)	0.146** (0.072)	0.077* (0.046)
Formal financial institutions	-0.003*** (0.001)	0.018*** (0.004)	-0.002*** (0.0003)	-0.004*** (0.001)
Consumption loan * Formal financial institutions	4.52e-05 (0.0001)	0.001** (0.0002)	-0.0002 (0.0002)	-0.0003 (0.0002)
Household head characteristics variables	Control	Control	Control	Control
Household characteristics variables	Control	Control	Control	Control
Region	Control	Control	Control	Control
N	5698	4031	3981	6067
R-sq	0.346	0.318	0.318	0.462

given due to the limited space since they are the same as the earlier results.

From the regression results we can see that formal financial institutions played a limited role in rural areas. Only the regression coefficient in 2016 was significantly positive. From the lens of substitution effect, online social network significantly promoted household consumption expenditure in 2010 and 2014; in the meantime, however, formal financial institutions had no significant impact on household consumption expenditure. In urban areas, the regression coefficient of formal financial institutions in 2014 was significantly positive. The positive promotion of online social network was significant in 2016 and 2018, in comparison, that of formal financial institutions wasn't significant.

## 5. Conclusions and Suggestions

This paper, with 27,632 Chinese households as study samples, empirically tests the impact of online social network on household consumption. We find that online social network accelerates the formation and accumulation of Chinese new social capital and further promotes the domestic households' loan consumption. On the basis of empirical study, this paper proposes the following conclusions and suggestions.

First, the online "group culture" has formed new social capital in China and has an impact on Chinese traditional social network. In Chinese rural areas, with

the popularization of the internet, emerging social platforms such as WeChat groups and QQ groups have made traditional social network that is based on blood and clan relationships deconstructed and reconstructed. For Chinese households with stable marriage, large family size and well-educated members, the consumption behavior is remarkably influenced by online social network. Based on this, this paper suggests the government to vigorously promote the construction of internet infrastructure, encourage Chinese households to use online social platforms and develop good social network relationships, expand the channel of information communication for households and facilitate the formation and accumulation of new social capital.

Second, the impact of online social network on Chinese households' consumption loan varies in different regions. In 2010 and 2014, there was a significant positive correlation between online social network and rural households' consumption loan. After 2016, there appeared to be a negative correlation between the two and the testing result wasn't significant. The main reason is, an increasing number of rural youth have moved into cities and became permanent urban population as urbanization accelerates over the past years. Meanwhile, of the population left behind in rural areas, the middle-aged and elderly are in the majority. These people aren't proficient in using the internet. Since 2016, there has been a significant positive correlation between online social network and urban households' consumption loan, which is in accord with the process of urbanization. Under the process of urbanization, more rural youth move into cities and get loans via online social network. Hence, this paper suggests the government offers more training in internet technology utilization to middle-aged and old groups in rural areas, raising internet application level in these areas. Besides, local governments, making full use of rural revitalization policies, should encourage more young people to return to their hometown to start up business, thereby enhancing the penetration of the internet and promoting the consumption power of households in rural areas.

Third, Chinese households' loan consumption is more driven by internet technologies. The influence of formal financial institutions on households' consumption expenditure is on the decrease, while that of internet technology innovation on households' loan consumption is on the increase, which is proved by the fact that more and more Chinese households are borrowing loans via online social network. Related data and empirical results concerning Chinese rural and urban households show that there isn't a significant positive correlation between consumption loan and formal financial institutions. In Chinese rural areas, there's a significant negative correlation between formal financial institutions and consumption expenditure. In Chinese cities, there's also a significant negative correlation between the two according to the data in 2010, 2016 and 2018. Therefore, this paper suggests the government to further stipulate the internet finance market for better development. In the context of the flourishing internet finance market, the government is suggested to formulate and improve

internet finance-related laws and regulations, take disciplinary actions against loan shark and loan fraud and well preserve the order of China's internet finance market. In addition, formal financial institutions should be encouraged to vigorously develop inclusive finance business, offering more convenient consumption loan products and services to low-income group in rural and urban areas.

### Conflicts of Interest

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

### References

- [1] Jiang, X. (2017) The Reorganization of Resources and the Growth of Service Industry in Highly-Connected Society. *Economic Research Journal*, No. 3, 4-17.
- [2] Chuang, Y. and Shu, W. (2011) The Perceived Benefits of Six-degree Separation Social Networks. *Internet Research*, **21**, 26-45.  
<https://doi.org/10.1108/10662241111104866>
- [3] Antoci, A. and Sabatini, F. (2018) Online Networks, Social Interaction and Segregation: An Evolutionary Approach. *Journal of Evolutionary Economics*, No. 28, 859-883.  
<https://doi.org/10.1007/s00191-018-0556-6>
- [4] Lee, S. and Persson, P. (2016) Financing from Family Member and Friends. *The Review of Financial Studies*, **29**, 2341-2386. <https://doi.org/10.1007/s00191-018-0556-6>
- [5] Zhou, G., Fan, G. and Shen, G. (2014) Income Gap, Social Capital and Health Level—Based on Empirical Analysis of Chinese Family Panel Studies (CFPS). *Management World (Monthly)*, No. 7, 12-21+51+187.
- [6] Gao, M. and Fok, R. (2015) Demographics, Family/Social Interaction and Household Finance. *Economic Letters*, No. 136, 194-196.  
<https://doi.org/10.1016/j.econlet.2015.09.027>
- [7] Hou, Y., Ndasauka, Y., Jiang, Z., Ye, Y., Wang, L., Yang, X., Li, Y., Zhang, L., Pang, and Kong, Y. (2017) Data from: Excessive Use of WeChat, Social Interaction and Locus of Control among College Students in China. *PLoS One*, **12**, 1-18.  
<https://doi.org/10.1371/journal.pone.0183633>
- [8] Jiang, T.S. (2015) Identification of Social Interaction Effects in Financial Data. *Computational Economics*, **45**, 207-238. <https://doi.org/10.1007/s10614-013-9415-6>
- [9] Huang, Q. and Yin, Z. (2015) The Effect of Loan Constraints on Household Consumption—Based on Empirical Analysis of Chinese Household Survey Data. *Journal of Yunnan University of Finance and Economics*, **31**, 126-134.
- [10] Qiu, L. and Hu, X. (2018) The Effect of Formal Loan Constraints on Rural Household Consumption Structure—Based on Empirical Analysis of Domestic 4141 Rural Households. *Journal of Agrotechnical Economics*, No. 8, 16-25.  
<https://doi.org/10.1016/j.jce.2015.02.003>
- [11] Liang, P. and Guo, S. (2015) Social Interaction, Internet Access and Stock Market Participation—An Empirical Study in China. *Journal of Comparative Economics*, **43**, 883-901.
- [12] Lu, M. and Li, S. (2008) Social Capital, Informal Institution and Economy Development. *Management World (Monthly)*, No. 9, 161-165.
- [13] Huang, Y.P. and Xu, W. (2017) Building an Efficient Financial System in China: A Need for Stronger Market Discipline. *Asian Economic Policy Review*, **12**, 188-205.  
<https://doi.org/10.1111/aepr.12173>