

## Research on the Impact of Consumer Finance on China's Economic Development

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**Abstract:** In recent years, China's economic growth mode has begun to transform, especially after the financial crisis, the country began to support consumer finance enterprises in a planned way. How to better develop the consumer finance industry and standardize the consumer finance industry so that it can effectively shoulder the task of domestic demand for labor has become a problem worthy of discussion. In terms of theoretical research, this paper defines the specific connotation of consumer finance, and elaborates the current form of supply and the main body of supply of consumer finance combined with the actual situation. On the basis of consumption theory, consumption credit theory and economic growth theory, this paper draws out the causes and functions of consumer finance and its relationship with economic growth, which lays a foundation for theoretical analysis of the impact of consumer finance on economic growth. In today's social and economic form, the development of consumer finance is conducive to promoting the transformation of China's economy from investment-oriented to consumption-oriented, enhancing the pulling role of consumption in economic development, and thus contributing to the transformation of the mode of economic growth and sustainable economic development. At the same time, the test results of different economic regions show that the impact of consumer finance on economic growth is different. The contribution of Eastern region, central region and western region to economic growth decreases in turn, so the development of consumer finance plays an important role in economic growth.

### 1. Introduction

Since the financial crisis of 2008, the global economy has been impacted and the economic situation has been depressed. China advocates expanding domestic demand by developing consumer finance, transforming the economic development situation and adjusting the economic structure to achieve this goal. With the increasing influence of financial science and technology, the management concept and mode of traditional consumer financial institutions have to be changed, and the products and types of consumer finance are rich and colorful. Consumer groups continue to expand and are striding towards HP Finance. Innovation and development of consumer finance will inevitably have a great impact on China's consumer financial market. Based on China's increasing per capita disposable income, changes in social consumption concepts, increasing consumer demand, and some policies to encourage consumption, such as the state's policies. From 2015 to now, consumer finance has been supported by more and more groups, which has promoted the continuous expansion of consumer finance. In 2018, China's consumer credit reached 13.22 trillion yuan (excluding mortgages), an increase of 42.5% year-on-year. Therefore, the study of consumer finance can better expand the consumer finance market, popularize the concept of consumer finance, increase the main body of consumer finance, and make consumer financial products more diversified, thus playing a greater role in stimulating domestic demand and economic growth. In view of this, this paper studies the impact of consumer finance on China's economic development, and finds its problems, and proposes comprehensive countermeasures.

From the perspective of domestic and foreign research, most of the current literature on the impact of consumer finance on economic growth stays in the case of imperfect consumer subjects and unsound consumer financial models. Based on the research foundation of the predecessors and the realities of the times, this paper studies the theory of consumer finance from the perspective of

consumer subjects tending to perfection and different ways of consumer finance. On the basis of summing up the previous problems about consumer finance data and methods which are rough and not precise enough, the PVAR model is used to expand the sample size, reduce the experimental error and ensure the authenticity of the experimental results. It has a good theoretical and practical significance to test the impact of consumer finance on economic growth.

## 2. An Empirical Study of Consumer Finance on China's Economic Growth

The empirical research in this paper consists of two parts. The first part collects panel data from China Statistical Yearbook, uses PVAR model and GMM estimation method to test the impact of consumer finance on economic growth in a period of time. The second part uses the impulse response function to test whether there is a long-term relationship between consumer finance and economic growth, and use the results of variance decomposition to test the aspects of consumption Jingrong's economic growth.

### 2.1 Model selection and data processing

#### 2.1.1 Model Selection and Setting of PVAR

PVAR model can specifically reflect the relationship between variables, and the sample data is comprehensive, which can increase the accuracy of the study. PVAR is divided into three steps. First, GMM is used to estimate the regression coefficients of variables. Secondly, the impulse response graph is used to compare the response of a variable to a unit of standard information shock of a variable. Finally, the error is analyzed with the result of variance. The advantage of PVAR is that it can analyze the dynamic relationship between panel data and the data requirements are relatively low. When  $T \geq M+3$  ( $T$  is the time series length and  $M$  is the lag length), the parameters can be analyzed at this time. When  $T > 2M+2$ , the hysteresis parameter can be estimated under steady state conditions.

#### 2.1.2 Indicators and data processing

Based on the definition of consumer finance connotation and the purpose of research, this paper uses the financial institution's agent index for consumer loans, which is the most consumer agent, expressed in XD. In this paper, consumer finance is studied, and the role is clear, so the per capita consumption expenditure CD is used as a variable. Gross domestic product is expressed in terms of GDP.

The data comes from the balance panel data of provinces and municipalities from 2006 to 2018. In order to reduce data fluctuation, logarithms of all variables are used to verify the validity of  $\ln xd$ ,  $\ln cd$  and  $\ln gdp$ . The data is passed through the unit root and cointegration test, and then Stata is used to estimate the GMM coefficient, and the pulse analysis map and the analysis variance are performed.

## 2.2 Empirical Test of Consumer Finance on China's Economic Growth

### 2.2.1 Data stationarity test

It can be seen from the Table that at a significant level of 10%, the LCC except for  $\ln xd$  is in compliance with the test, indicating that  $\ln xd$  is sTable and the other sequences are not sTable. The three variables under IPS are not sTable. After the first-order difference re-test of the three variables, it is found that all the three variables pass the stability test at the confidence level of 10%. Therefore, it is concluded that whether the data have a common unit root or not, the three variables satisfy the stationarity test and satisfy the needs of empirical analysis. At the same time, the following analysis model is constructed:

$$C_{it} = \alpha + \beta L_{it} + \lambda \ln_{it} + n_t + d_i + \mu \quad (1)$$

Table 1 Panel data stationarity test

Variable	LCC test		IPS test	
	T Value	P Value	w-t-bar	P Value
lnxd	-0.0175	0.4572	5.9417	0.9987
lncd	-2.3960	0.0083(10%)	0.1855	0.5736
lngdp	-12.4684	0.0000(10%)	-0.6407	0.2609
$\Delta$ lnxd	-10.7531	0.0000(10%)	-6.0707	0.0000(10%)
$\Delta$ lncd	-10.9374	0.0000(10%)	-3.2496	0.0006(10%)
$\Delta$ lngdp	-8.8513	0.0000(10%)	-1.3748	0.0846(1%)

### 2.2.2 Cointegration analysis

The PVAR model can be established only if there is a co-integration relationship among variables. On the basis of stationary data, KAO test is used to test three variables to see whether they have co-integration relationship. As can be seen from the Table below, at the significant level of 5%, the overall test ADF value of consumer finance and economic growth is -7.0577, rejecting the null hypothesis, so there is a cointegration relationship. In the same way, there is a cointegration relationship in the eastern, central and western regions.

Table 2 ADF test data

Population	ADF	-7.0577
East	ADF	-0.8942
Central section	ADF	-7.8755
West	ADF	-8.5677

### 2.2.3 Estimation results under PVAR model

Because of the individual effect and time effect of panel data, the GMM estimation coefficient will be erroneous. Therefore, when estimating panel data, it is necessary to use Helmert to process the data in order to eliminate the influence of errors on the data. The following Table shows the overall GMM estimates. It can be seen that except for the first-order lag of consumption, the impact on consumer finance is not significant, and the other variables pass the significance test at the 10% confidence level. The lag in consumer finance has a positive impact on economic growth and has passed a 1% confidence level.

Table 3 GMM estimation results

Dependent variable	lnxd		lncd		lngdp	
	b-GMM	t-GMM	b-GMM	t-GMM	b-GMM	t-GMM
L.h-lnxd	0.9215	3.4418(10%)	0.0648	2.528(10%)	0.0451	2.3352(10%)
L.h-lncd	-0.8849	0.9187	0.2621	1.6364(1%)	0.7021	-3.3973(5%)
L.h-lhgdp	0.0502	-1.4615(1%)	0.3018	2.7622(10%)	0.0614	9.5167(10%)

## 3. Impulse response function and analysis of variance

### 3.1 Impulse response function

In order to compare the impact of consumer finance on the standard deviation of economic growth on long-term and short-term impact trajectories. So a pulse impact analysis of consumer finance and economic growth. The horizontal axis represents the number of periods, and the vertical axis represents the degree of response between variables. From the overall analysis, the following figure shows that the response of consumer finance to economic growth is increasing gradually, and in the long run, the contribution of consumer finance to economic growth is positive, and at a higher level of impact. This shows that there is a long-term equilibrium relationship between consumer finance and consumer economic growth.

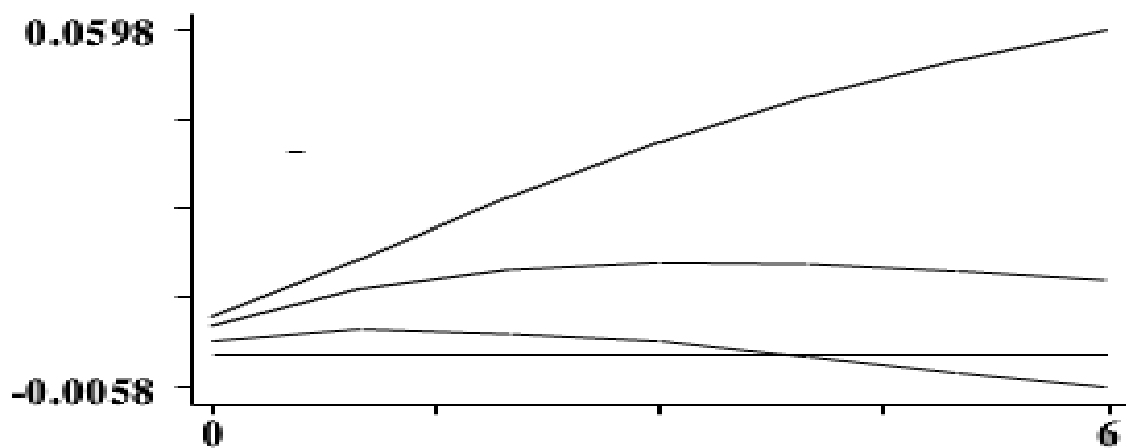


Fig.1. Overall response path of economic growth to consumer finance

As can be seen from the total impulse response chart, considering the eastern region, the impact of consumer finance on economic growth is positive, increasing at the beginning, reaching the highest in the third period, and finally tending to be flat and at a higher level. From the perspective of the central region, the contribution of consumer finance to economic growth is positive. With the change of time axis, it shows a trend of first increasing and then decreasing, and the impact of unit standard deviation brings about economic growth equivalent to 0.02 units. Finally, from the west, although the reaction is positive, the impact is relatively large, and the response is quite sensitive. After the first two periods rise rapidly, it shows a trend of redemption, and finally approaches 0, and is significantly lower than 0.02.

### 3.2 Variance analysis results

As can be seen from the Table below, the contribution of each period of consumer finance to economic growth is about 3%. The eastern region has a more significant impact than the central and western regions. The data show that the contribution of Eastern consumer finance to economic growth increases steadily with the number of periods. In the tenth period, it shows a trend of 16.44%, in the twentieth period, it reaches 19.44%, and in the thirtieth period, it reaches 20.66%. The central part was sTable at 11.68% and the western part was sTable at 2.08%.

Table 4 Analysis of variance

Variable	Forecast period	Population	East	Central section	West
		lngdp	lngdp	lngdp	lngdp
lnxd	10	0.0302	0.1644	0.1132	0.0187
lncd	10	0.2041	0.1664	0.3614	0.3456
lngdp	10	0.4372	0.1717	0.7765	0.6044
lnxd	20	0.0326	0.1994	0.1186	0.0208
lncd	20	0.2000	0.1998	0.3789	0.3448
lngdp	20	0.4156	0.2007	0.7797	0.5917
lnxd	30	0.0326	0.2066	0.1186	0.0208
lncd	30	0.1998	0.2067	0.3790	0.3447
lngdp	30	0.4151	0.2069	0.7797	0.5915

Generally speaking, the short-term impact of consumer finance on economic growth is positive, with a coefficient of about 0.0451. The coefficient is bigger and through the significance test, we can see that the impact is more significant, indicating that consumer finance can play a role in promoting economic growth in the short term. Through the performance of impulse response function, we can see that consumer finance can promote economic growth and tend to be sTable in the long run, so there is a long-term equilibrium relationship between them. The results of variance decomposition show that the effect of consumer finance on economic growth can reach about

3.26%. To sum up: whether in the short or long term, consumer finance contributes to economic growth.

From a regional perspective, the impact of consumer finance on economic growth in the three regions is positive and has a promoting effect, but there are differences in the degree of impact. GMM estimates show that the impact of consumer finance on economic growth in the eastern region is 0.0679, in the central region is 0.0458, and in the western region is 0.0367. It is not difficult to see that the impact of consumer finance on economic growth has regional effects. From the impulse response function, the impact of consumer finance on economic growth in the eastern and central regions is about 0.02, while that in the western regions is significantly lower than 0.02. Moreover, the trend in the eastern and central regions is relatively gentle, and the changes in the western regions are large, with a sharp decline. Looking at the results of variance decomposition, the contribution rate of consumer finance to economic growth in the eastern region is 0.19, 0.11 in the central region and 0.02 in the western region. It can be concluded that the contribution of consumer finance to economic growth is different in different regions. We should take measures to develop consumer finance reasonably and promote economic growth.

## **4. Countermeasures and Suggestions**

### **4.1 Strengthening Risk Management of Consumer Finance**

The service providers of consumer finance should improve their risk management ability and achieve sustainable development. The core risk control technology built by “pre-loan, in-loan and post-loan plus internal wind control” is indispensable. Firstly, the relevant decision-making system of consumer finance should be established. Establish a variety of professional decision-making system, a variety of ways to collect information, intelligent wind control evaluation and decision-making structure, flexible data detection mechanism, etc. Secondly, to achieve risk management full process monitoring: in the important risk control department to pursue risk control responsibility and operational specifications, so that different positions are mutually restrained and mutually verified. Then, improve the asset assessment mechanism of each channel, including the repayment and collection mechanism of informal loans, the construction of post-lending risk warning system and the reward and restraint mechanism of relevant personnel. Finally, build and improve internal control compliance management policies, systems, systems and methods to prevent the risks of accidental operation of employees.

### **4.2 Gradually improve the social credit system**

We should further improve the consumer social credit system, and incorporate consumer finance, especially Internet consumer finance information, into the consumer's credit information system to further improve consumer personal information collection. Establish a database, promote the common development of multi-party data, and gradually build a credit information system with a large coverage base and diversified information.

### **4.3 Pay attention to the protection of the legitimate rights and interests of financial consumers**

With the development of consumer finance, more and more people begin to contact with consumer financial products. The general trend is that we must have a better understanding of relevant financial products and guard against their risks. Therefore, while developing consumer finance, we should first realize that we should strengthen the quality education of financial consumers and financial investors, popularize relevant knowledge of financial products, and raise awareness of risk prevention. Secondly, we should provide protection for consumers' rights and interests, improve relevant financial laws and regulations, strengthen the ability of relevant departments to provide information and the obligation to protect consumers' personal privacy. Thirdly, consumer financial institutions should use concise, popular and understandable language to timely and accurately inform consumers of the information that may affect their decision-making, especially the specific value of interest rates on consumer lending, and not deliberately conceal

consumers. Finally, relevant regulations on how to use personal information are promulgated, and the construction of information sharing mechanism is strengthened to prevent the phenomenon that credit lines of consumer financial institutions exceed individual repayment capacity.

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