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Theoretical and Empirical Analysis of "Local governments led" investment Hindering Consumer- Based on Panel Fixed Effects Model

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Abstract. The perfect investment system can promote stable and sustainable development of the consumer, but China's investment system has obvious "local government-led" feature. Although to a certain extent, it can promote economic growth, but it is impeding the development of consumer reversed arrangement. Based on our 31 provincial panel data from 2008 to 2016, using a fixed effects model approach, the paper has a theoretical and empirical analysis on a "local government -led" investment system characterized by the impact on the consumer. Studies have shown that local government investment spending and consumer spending in the investigated period has a positive correlation, but as an alternative investment system variables on consumer spending, it has a significant negative effect, indicating that the "local government-led" is characterized by investment system hindered the increase in household consumption. Therefore, by improving the investment system it will help remove institutional barriers and promote the sustained and healthy development of the consumer.

Introduction

Since reform and opening, China's total consumer spending increases year by year, but the rate of household consumption declines. With the development of the research on the impact of the consumer's income, expectations and uncertainty dominant factors, more and more people are turning to a deeper level with Chinese characteristics and institutional arrangements.

System is an important factor affecting the consumer. From Marx, consumption is not only a personal prescriptive behavior, but also the social relations of production. It is a system of constraints or social behavior in consumption. The product is not divorced from social production relations campaign [1]. From the perspective of modern economics perspective, consumption function theory is mainly developed in the neoclassical model, and the neoclassical model is deeply rooted in the soil of modern Western social system. There are many important differences between China's social system and Western society [2]. Therefore, an institutional factor is the focus of the study of Chinese residents' consumption. In 1988 the residents of behavioral research group of CASS Institute of Economics pointed out earlier that in the larger span of history, we need to re-examine consumption changes which based on the limit of residents' freedom of choice and the isolation in the industrialization process of consumer, which reflects a major feature of our traditional system [3]. Subsequently scholars have proposed the important role of promoting consumption on another system, such as Tong Zeheng, who proposes stimulating consumption and expanding domestic demand are the ultimate means to increase household income through institutional innovation, [4]. Diaoyong Zuo pointed out at this stage insufficient consumer demand is not only due to practical reasons, but also a deeper institutional and institutional context [5]. Aside from the economic point of view, Ning and other scholars tries to analyze consumption and consumer systems from the point of view of sociology [6], and they use "institutional embeddings" to study consumer behavior constraints.

There are some scholars who are trying to use econometric methods to do quantitative analysis on systems and consumer relations. Sun Feng, Yi Dan Hui, using clustering sample analysis, concluded that system is the main factor consumption [7]. Qun Feng, Hu Shigeng introduced institutional factors in two general consumption sector optimized economic growth model, and

derived an economic system from the dynamic optimization of the first-order conditions, non-equilibrium state of economic factors on the institutional factor evolution of the law: speed ratio in the evolution capital output and consumer capitalism are in a positive correlation [8]. Zhang Peng, Min made an empirical study and they posited that affected by the economic impact and system changes, there is no stable long-run equilibrium relationship between China's rural residents' consumption and income in this period [9].

As can be seen from the above literature, there are certain contradiction between the current institutional arrangements of certain system and an increased consumer demand. The fact is that it is a reverse arrangement that hinders the growth of household consumption. “Local government-led” may be one of the most important institutional arrangements that affects China’s investment system and consumption. As one aspect of the economic system, investment system means that the constraints and rules that regulate investment behavior and its implementation [10]. Under the planned economy system, the investment body is the central government and other levels of government. And under the market economy, the investment subjects are mainly businesses and individuals, while government invests mainly in public goods. As China develops from a planned economy to a market economy, the central government distributes power directly to local governments, especially after the change in the tax system. Local governments’ enthusiasm for economic development is becoming high, which has a positive role in promoting economic growth. It also makes the investment system a significant “local government-led” feature. This featured investment system hindered the sustainable development of the consumer. But the existing studies about system and the consumer are mainly in the income distribution system, the social security system and consumer credit system, and how to restrict the consumer’s consumption. The studies from the perspective of a small investment system are few. Based on this, the paper attempts to make an theoretical analysis on how investment system affect consumer, and then use the panel data fixed effects model to transform a government-led investment system put into consumer measure model, in order to determine whether the investment system hindered the development of the consumer. According to empirical results, the paper finally proposes appropriate policy recommendations.

Theoretical Analysis on Residents’ Consumption Affected by Investment System

The investment system should guide the local government to withdraw from the investment in the field of competitive economy under the system of socialist market economy. And the investment system should focus on the investment in the field of public products, which enables the enterprises and individuals become the leading investment body, thus forming the mechanism decided by market rather than investment. However, our country’s investment system has the characteristics of the investment impulse driven by local government, the rising investment proportion, etc., which prevents the citizens’ consumption from fast developing.

First of all, the investing preference of local government has caused the total sum of social investment to be rising, which definitely lessens the total consumption when the national income is in certain circumstances. The strong investment impulse of local government originates from the system of government performance examination focused on GDP, the fiscal decentralization and the soft budget constraint, etc. The economy power delegated by central government enables the fast development of local economy. The report made by World Bank has pointed that the Chinese system of finance and taxation possesses the characteristics of federal system. Therefore, the local governments possess the zeal for the implement of investing strategies that benefit the economy. Governments at all levels possess more powers of economy, and thus they can attract even the investment from foreign capital.

According to Keynesian theory of investment, expanding investment effectively can stimulate the economic growth in the short term. In the long run, although the government has invested public goods, which can contribute to economic growth, this is the economic performance in the short term while the local government officials just focus on the government performance. Furthermore, the local public investment in other regions have positive externalities, the federal government has to

provide assistance for local governments' public expenses by spending incentives. Thus problems of SBC are faced by local governments, so that the mechanism of constraint of local governments' investment fails, triggering the investment impulse. In addition, the loosening of approval authority of government's investment provides the possibilities for the "abuse of power" . In such a strong local government investment preferences, the total social investment is rising. Although the promotion of that year's GDP growth, the lack of consumer support, the society will be fail to long-term economic development. Because consumption is the ultimate goal of investment, lack of consumer support as well as investment can not be sustained, sustainable economic growth will be difficult.

Secondly, the local government investment "short-sighted" cognitive biases lead irrational industrial structure, with resulting consumer fault. North et al pointed out , with the decentralization of the central government economic power increases, the government norms of human behavior through the social system, the local governments pursue their own interests to also increase maximize the incentive . Since the implement of fiscal decentralization system, local government investment decisions have a greater autonomy. In the investment decision "short-sighted" cognitive bias current may bring a lot of revenue such as "achievement projects" . As Zhou Lian thinks that decentralized system may lead to excessive investment into the certain industry. If the investment regime to market-oriented, then the industrial structure and consumption structure will adapt. Conversely, if the investment regime led by local government, then the cognitive biases will result in the imbalance of industrial structures, nor in accord with the consumption structure yet.

Finally, because of the rising of the proportion of local government investment, driven by rising investment rates, thus it has caused a decline in household consumption rate. Before reform and opening up, with the central government mandatory plan-led investment growth, the local governments' investment in the GDP steadily has greatly improved though the policy of reform and opening up gradually attached great importance to private investment-oriented. According to China Statistical Yearbook data, local government investment accounted for only 3.56% in GDP in 2003 but 9.89% by 2013. Local government expenditure in the total expenditure increased from 45.7% in 1985 to 82.2% in 2013. This is because the fiscal decentralization reform, various local governments with high economic autonomy and holds a lot of resources. In this case, the local government investment surge, this over-investment is an important reason for rising investment rate. Investment rate went up from 35.3% in 2000 to 48.3% in 2011, while consumption increased from 62.3% in 2000 to 49.1% in 2011. Therefore, the investment rate in the economy is further reduced due to the rise in the proportion of consumption.

Empirical Test Affected by System of Investment

Data Description and Model Set

Although the system of the impact towards the consumption is discussed by economists, there exists little empirical research as well as the systematical research of the investment system and consumption from theory to empirical testing. This paper mainly studies the impact of investment system on the consumer, based on 31 provincial panel data and the empirical relationship ranging from 2008 to 2016, and tries to analyze from a new perspective of consumer issues. The impact of local government investment as consumption growth of non- institutional factors substitution variables, indicators and degree of government intervention can affect consumption growth as factors in the system of substitution variables, with the provincial government investment expenditures in the total investment of fixed assets proportion to represent. Since the contents of the local government investment is more complex, statistical data on the presence of the government does not directly invest in this index, so in this calculation process, learn Zhang Weiguo , Ren Yanyan and other people study , the government budgetary expenditure deduction science, education , culture, health expenditures and administrative costs represent the part after the local government investment as a proxy variable used in the econometric model . In order to eliminate possible heteroscedasticity, first of all, two variables of household consumption expenditure and

local government investment preprocess natural logarithm sample data, the scatter plot is shown in Fig.1.

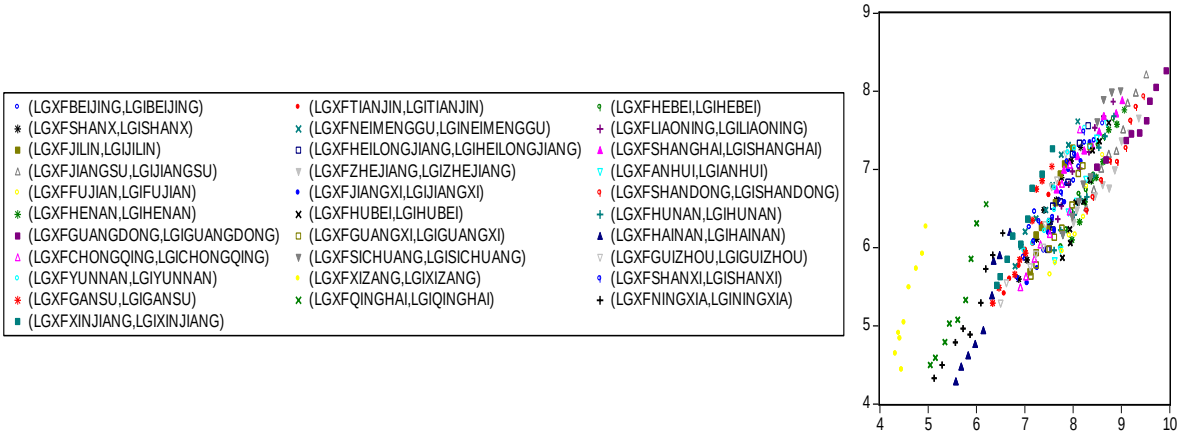

Fig.1

Scatter established according to the following regression equation:

$$LGXF_{it} = C_{it} + \alpha\ LGI_{it} + \beta\ ZDBL_{it} + u_{it}$$

Here uses Chinese 31 provinces for a total of 279 observations panel data between 2008 and 2016. In the regression model, the subscript i and t denote the i-th province of observations in t year. α, β is a coefficient, u is the disturbance term. Explanatory variables LGXF represents the logarithm of consumer expenditure, LGI shows local government investment expenditure the logarithm so as to ZDBL means that the investment regime of the "local government-led" feature, with the degree of government intervention as an alternative variable, using the raw data are from the years, "China statistical Yearbook”

Data Stationary Test

To avoid spurious regression, we should make the unit root test before the regression analysis. In order to ensure a comprehensive test, we respectively use test LLC, Breitung test and Fisher-ADF test methods for unit root test of the .panel data.

Table 1 Test of root of unit of panel statistics

Testing Methods		Lgxf?	Lgi?	Zdbl?
The Level Value	LLC Test	-14.463(0.00)*	-9.5244(0.00)*	-10.332(0.00)*
	Breitung Test	1.59976(0.9452)	-1.69(0.0453)	-1.09259(0.1373)
	ADF Test	86.0994(0.0232)	56.0201(0.6897)	60.8649(0.5170)
A Difference	LLC Test	-16.08(0.00)*	-14.28(0.00)*	-14.89(0.00)*
	Breitung Test	-5.08(0.00)*	-8.68(0.00)*	-7.05(0.00)*
	ADF Test	111.02(0.00)*	81.94(0.05)	91.96(0.01)*

The results show that, in addition to LLC inspection, the other two methods are consistent with the level of value test. We can determine the level of value three sequences contain a unit root. Then LLC methods, Breitung and ADF test methods for three sequences were first differential unit root test sequence, except lgi? ADF test time difference sequence different conclusions, the remaining test results shows that all of the above variables are first-order stationary, indicating that the dependent variable and the explanatory variables may exist between the co integration relationship. Co integration further found that apart from the original Panel v-Statistic accepted assumptions; all tests were rejected“does not exist co integration relationship” hypothesis, the test results shown in Table 2. Considering that the two panels’ co integrated variables, so we can conduct regression

analysis.

Table 2 The panel cointegration test

Variables		The results of panel cointegration test				
Lg XF	Lgi ZDL	Group Statistics	Panel v-Statistic -0.44	Panel rho-Statistic 4.57*	Panel PP-Statistic -2.58**	Panel ADF-Statistic -3.77*
		Between Group Statistics		Group rho-Statistic 6.64*	Group PP-Statistic -5.97*	Group ADF-Statistic -5.86*

Empirical Results

Table 3

Test Summary		Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random		134.712460	2	0.0000
Cross-section random effects test comparisons:				
Variable	Fixed	Random	Var(Diff.)	Prob.
LGI?	0.682586	0.722730	0.000012	0.0000
ZDBL?	-0.929195	-1.572408	0.004215	0.0000

The model for the estimation of fixed effects is as following:

LGXFit=3.419+0.683LGIit-0.929ZDBLit
(39.9) (51.4) (-6.1)

R2=0.989, DW=0.73, N*T=279

The value of DW in this model is 0.73, possibly exists self-correlation. And the evaluated value added with AR(1) and AR(2) is as following:

LGXFit=3.881+0.635LGIit-1.392ZDBLit+0.405AR (1)-0.005AR(2)
(32.3) (33.0) (-9.5) (6.2) (-0.1)

R2=0.996, DW=2.04, N*T=217

Obviously, the value of DW is 2.04, which already eliminated the self-correlation. And we can find that the evaluated coefficient of investment and expenses made by local government keeps at the level 1%, which is obvious as the positive correlation, while the evaluated coefficient of system as the variable is negative. This shows that the system of investment by local government-dominated characteristics has produced obvious negative effect towards the consumption, which is concordant with our former analysis.

Summary

The empirical analysis based on provincial panel data has the following conclusions. On the one hand, there is a significant and positive nexus under 1% existing between local government investment and residents' consumption. When the local government investment increases by 1%, the residents' consumption will increase 0.64%. This shows that the increase of the local government investment may promote residents' consumption, the reason for which may be the fact that as the increasing of local government investment, the supply of basic facilities and public products will be improved to some degree [25]. The increase in local government routine power also brings the improvement of the public service system and the overall efficiency of regional economy. While on the other hand, as a substitution variable, investment policy has significant negative effects on residents' consumption. In other words, the leading role of local government existing in the investment policy hinders the development of the residents' consumption. Facing similar motivation and restriction, local governments compete with each other for economic development with strong investment impulse, which results in the rise of social investment rate and

the decline of consumption rate. Due to the soft budget and resource constraint, investment leading by local government cannot have Pareto efficiency and may have the outstanding phenomena of overlapping investment and inefficiency.

Based on the above conclusions, we hereby bring up three policy recommendations, which concern deepening the reform of investment system and eliminating the institutional barriers existing in the residents' consumption growth, in order to promote the sustainable development of residents' consumption.

Firstly, the reform should be deepened with institutional creation as the main points. The transformation of government functions should be promoted and the relationship between government and market should be redefined. In the first place, the administrative approval procedures should be reformed by canceling the numbers of matters that require central or local government approval and transferring it to the market. The innovation of government management mode should seek to adapt to the international high standard investment. In the second place, local government should realize its service function by reducing intervention and leading role in investment. Deepening reforms will produce the institutional dividends, stimulate the market and economic endogenous dynamic and release the folk investment potential. In the third place, the supervision over law enforcement in the field of public goods should be strengthened and the level of public service should be improved. In the last place, the fiscal transparency should be improved, which includes active government information publication, legislative inquiry, supervision and auditing and the institutional protection for whistleblowers, etc.

Secondly, we should improve the mechanism of market deciding investment, expand the opening in the field of investment and explore the negative list management mode. In the first place, the ratio of local government investment in the fixed assets should be reduced gradually and the differential treatment existing in the credit availability, rate and market access should be eliminated in order to let the enterprise really become the investment subject and promote free competition market mechanism. In the second place, restrictions in private investment metaphorically referred to as "swing door" and "glass door" should be broken by reducing approval procedures, simplifying governmental programs and lowering transaction costs. In the last place, we should expand the opening in the field of investment and explore negative list management mode. The borders between government and market should be further clarified. The energy of market should be used to its maximization to give more investment space to the enterprises and full play to the basic role of market allocation resources.

Thirdly, investment preferences of local government in competitive fields should be resisted by institutional arrangement. Government investment should quit competitive fields gradually with the constant improvement of market economic system. But in actual operation, the government investment in economic fields not only failed to reduce but also increased greatly, which performed as a government behavior of path dependence and lock-in effect. For their own interests, local governments were unwilling to give up industry monopoly and economic regulation and took government behaviors such as rent setting, lease in batches and unauthorized investigation, which excels the borders of government functions. Fundamentally eliminating excess investment impulse of local government requires long-term improvement and reform in mechanism. In the first place, the current systemic incentives of local officials to excessive investment should be reformed by changing the achievements appraisal system, weakening GDP index weight and strengthening the weight of indicators such as environmental protection and people satisfaction. In the second place, the fiscal and taxation systems should be adjusted. Tax system which gives priority to residents' property should be set up in order to attach great importance to the resident's income.

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