

Economic impact of land finance and subsequent risk response

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In China, land finance is actually an endogenous factor in economic growth. As a kind of non-traditional, informal government revenue in China's economic transition process, land finance is unstable, non-standard and unsustainable, and it simultaneously makes the current land-finance dependent growth mode difficult to maintain. The paper firstly analyzes the impact of the land finance on China's economic growth and economic structure change followed by discussing the possible risks in post-"land finance" period. It then put forward some suggestions to deal with the problem. The analysis shows that land finance exacerbates the economic fluctuation, bringing in the increase of government public expenditure and economic growth in the short term. Nonetheless, in the long term there is no significant effect, and it could gradually lead to a more unreasonable economic structure. In the post-"land finance" period, if we do not take precautions in advance, it will restrain the sustainable development of China's economy and society.

Keywords: land finance, economic growth, economic structure, risk response

1. Introduction

In China, land finance is prone to endogenous in economic growth at present, and it has played a vital role in the sustained development in China's economy. The interaction of land finance and economic growth is embodied in two aspects. Firstly, since the 1990s, with the sustained and rapid economic growth and urbanization process accelerated, the demand for land has increased rapidly. Land finance has become increasingly indispensable in promoting regional economic growth. Secondly, after the tax-sharing reform in 1994, the land granting fee and other land-related revenue became a significant source of income for local governments and a veritable "second finance." The proportion of land granting fee in local governments' fiscal income is still rising, and has reached 50% or more in some districts (Du, Huang, & Wu, 2009). Land finance has eased the financial pressure of local government at the beginning of tax-sharing reform and the process of urbanization has also been accelerated in China to some extent. By land

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leasing, the local governments realized fiscal balance and attained some revenue surplus. The improvement of local governments economic autonomy has effectively promoted local economic development. “Land finance-economic growth” pattern has solidified itself in the existing system, and becomes the main path of the local government to promote regional economic growth.

However, there are also problems with this growth pattern of relying on land finance that should not be ignored. Firstly, the frequent and violent fluctuations of land revenue directly affect economic growth stability, and this is then multiplied by current finance system which relies on land. Land finance could bring a harsh blow to the economy when large external shocks happen. Secondly, although it accounts for a high proportion of local revenue, the land granting fee has not been included in the fiscal budget and, simultaneously, it needs sufficient transparency and effective supervision. That is an important reason for distortions in local governments’ behavioral patterns and unreasonable economic structure in China. Thirdly, constrained by land scarcity, land finance is inevitably unsustainable, which will pose serious challenges to the current economic growth pattern. In the post-“land finance” period if we cannot get rid of the path dependence of “land finance-economic growth” pattern, economic development will face a great potential risk.

As a product of the reform lagging behind the growth of the economy in the transition of China, land finance is just a short-term behavior of the local government (Xue & Chi, 2010; Ye, 2012), and its characteristics including instability lack of standard and unsustainability, which influences the evolution of economic growth patterns and economic structure in China. The unsustainability of land finance indicates an excessive risk during the long-term economic growth in post-“land finance” period. A forward-looking assessment of these potential risks will not only help us to understand the political and fiscal incentives of local government in land development, but also have important policy implications for future reforms to maintain the sustained growth of China’s economy in post-“land finance” period.

Our paper is organized as follows. Section two analyzes the economic growth effect of land finance, the third section analyzes the economic structure effect of land finance, the fourth section discusses risks and countermeasures in post-“land finance” period, and the final section concludes with policy implications.

2. The impact of land finance on the economic growth

With a transition from a centrally planned economy to an increasingly market-driven economy, China experienced dualistic land ownership, fiscal decentralization and assessment mechanism in the past three decades, in which GDP and fiscal revenue growth predominated and constituted the basis of land finance system. Land finance has solidified itself into a part of the current system and has had important impact on economic development in China. It has caught the attention of scholars all over. There are also some authors who analyze the impact of land finance on the economic growth based on modified endogenous growth theory (Du, 2009; Xue & Chi, 2010). Most of these studies suggested that the land finance has a significant impact on economic growth and it is endogenous in economic growth, although results are not completely consistent. These

analyses are obviously not enough to clearly understand the impact of land finance on China's economic development.

Land finance, as a short-term behavior of the local government, may fluctuate wildly when changes are made to economic situation and macro policy, and the fluctuation of land finance will exacerbate the volatility of economic growth. As is it unsustainable, we can consider land finance as financing expansion of local government to increase expenditure in the long run. It distorts economic structure so its long-term effects of economic growth remain to be seen. Based on this, we address the issue about short and long term uncertainty effects that land finance bring to economic growth.

2.1. Short-term effects

In the short term, the fluctuations of land finance are mainly decided by government policy and market environment. Macroeconomic policies and land policies such as price and trade controls have a direct impact on the supply of land, and the demand for land is much more directly affected by domestic economic situation. Local governments being the only seller in China's land market, usually pursues their own revenue maximization rather than aggregate social welfare under the constraint of available land and macroeconomic policies. It exacerbates the imbalance between supply and demand of land and fluctuations of land granting fee are intensified. The land granting fee and local fiscal revenue have been growing substantially in recent years, but land granting fee fluctuates more violently than local fiscal revenue (see Figure 1).

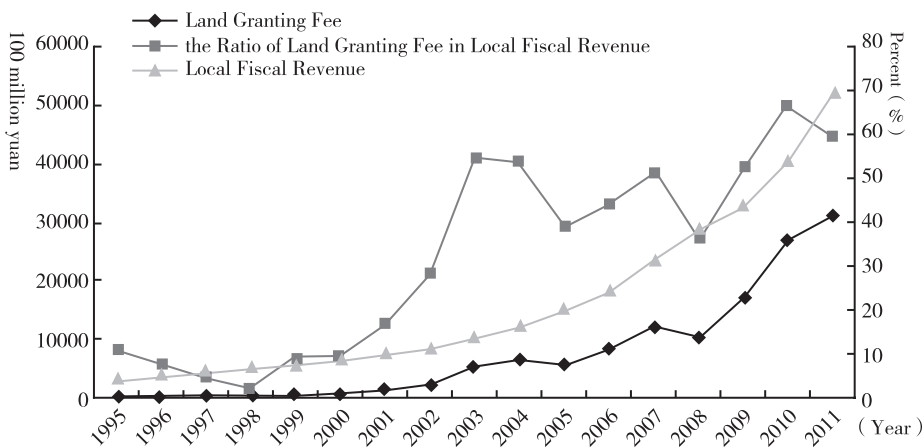


Figure 1. Land granting fee and local fiscal revenue (100 million yuan, %)¹

Since land finance is endogenous in economic growth, the fluctuation of land granting fee is bound to affect economic growth. We found (see Figure 2) that land granting fee fluctuates more

¹ The data for local fiscal revenue are from *China Statistical Yearbook*, and *China Land & Resources Almanac* (CLRA) provides data for land granting fee.

frequently than the economic growth, and simultaneously fluctuates in the same direction in the most years. In 1999, affected by the East Asian financial crisis, the growth rate of GDP declined, meanwhile, land granting fee began to increase significantly driven by the housing system reform. Similarly, land granting fee plummeted for the implementation of more strict policy in 2004 and 2011, and the economic recession was a key source of land granting fee decrease in 2008. As we can see in Figure 2, the fluctuation trend of land granting fee growth and GDP growth is very consistent besides a few special years. On one hand, this means their changes are mutually affected and it is confirmed that land finance is endogenous in economic growth. On the other hand, with the exception of economic fluctuation, land finance is influenced by land and housing policy adjustments which make it fluctuate more often and widely. All of these have an effect on economic growth.

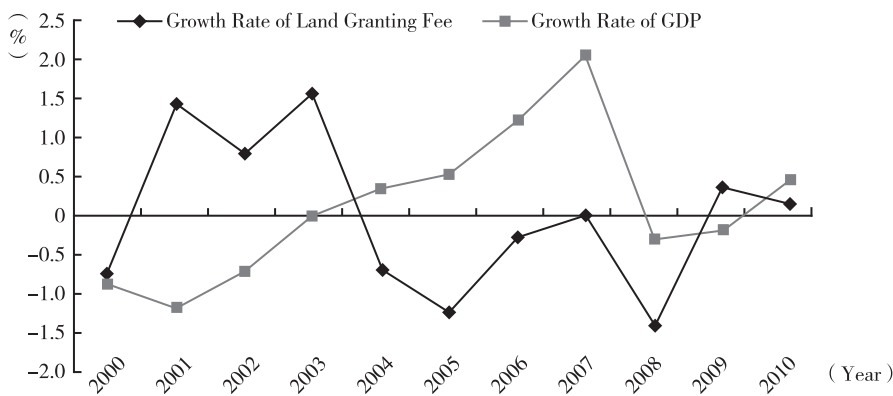


Figure 2. Comparison of land granting fee and economic growth fluctuation¹

In a wide sense, land granting fee is only a small portion of land finance. It also includes land-related administrative charges, taxes associated with land transfer and local government debt based on land. From influence, land financing is the main source of funding for fiscal expansion and urbanization (Liu & Jiang, 2005). If local government debt base on land is included in the analysis, then the effect of land finance on economic growth is much greater than the land granting fee impact only.

The recent economic development practice of China tells us that land financing is a primary means of support for urban expansion. The local governments, real estate companies and residents are closely bundled together by bank so that the influence of land finance fluctuation become more widespread and complicate. On one hand, during the process of urban expansion, the local governments established various financing platforms, e.g. Land Reserve Center, Investment Corporation, and Development Company, to bankroll urban infrastructure. This helped local government to bypass the regulations issued by the People's Bank of China, which

¹ We adopt GDP growth rate to measure the volatility of economic growth and land granting fee growth rate is used to reflect changes of land finance. The data for 1999–2011 are from *China Statistical Yearbook* (CSY) and *China Land & Resources Almanac* (CLRA). They have been standardized to show their volatility.

forbids local government to borrow directly from banks. Since most of these infrastructure loans are guaranteed by state land and local government, the fiscal risks of local government increase significantly. On the other hand, an integrated land and capital supply chain includes local government, real estate companies and residents. The development of real estate industry has been promoted by sufficient funding, but the real economy has lagged behind. The fluctuation of land finance will be significantly enlarged by financial leverage. If land finance fluctuates substantially the financial turmoil could emerge.

2.2. Long-term effects

Land finance emerged in the specific stage of China's economic transition. The price scissors of land, which are imposed by the local governments, form the nucleus of land finance. In this process, the land granting fee, most of which should be owned by farmland owner, is equivalent to a tax that the local governments levie on farmland. Wealth redistribution has taken place with changes of land function that are controlled by local governments. Local governments income has increased by land revenue and many cities have completed the initial capital accumulation. However, due to the limitation of land resources and the unsustainability of land finance, it is equivalent to receiving government receipts in advance to increase their current spending. Therefore, in the long-term, we can treat land finance as a part of government expenditure.

Up to now, neoclassical growth models and endogenous growth models have been used frequently in recent research on the effects of government expenditure on economic growth. Since the steady growth is determined exogenously in the neoclassical growth model, government expenditure can only affect growth rate in transition states and has almost no effect on the growth rate in long term, although it is an important factor of GDP growth nowadays. Endogenous growth model is a development of neoclassical growth theory. In a sense, the assumptions of neoclassical growth theory are relaxed and the related variables are taken as endogenous in the endogenous growth models. So the endogenous growth models are more appropriate to the analysis of long-term relationship between land finance and economic growth.

Barro (1990) introduces the Government Expenditure into endogenous growth model and found that appropriate government expenditure can promote economic growth, but he has not classified government expenditure. Zou et al. (1996) divides government expenditure into productive and non-productive government expenditure, and they report the effect of different expenditure composition on the long-term economic growth. This paper confirms that the model of Zou et al. is more suitable for analysis of land finance effect in long term. Firstly, land finance has been endogenous in economic growth, most scholars have formed a consensus on this. Secondly, land revenue is mainly invested in urban infrastructure so it can be distinguished from traditional government expenditure. Zou et al. argued that if total government expenditure and technology are given, each specific type of expenditure has an optimal proportion. If actual proportion was less than this proportion, increase of it will raise the growth rate in the steady state. If actual proportion is much higher, increase of it will be unfavorable for economy, even

though it is highly productive. Studies with the Cobb-Douglas production function reaches the same conclusion that only when benefits outweigh the costs could the expansion of government expenditure increase growth rate in the steady state.

Empirical researches on the relationship between government productive expenditure and economic growth have arrived at different conclusions. Yan and Gong (2009), by using panel data for 31 provinces from 1997 to 2007 found that productive expenditure of government does not necessarily promote economic growth. Liao and Yu (2006), by using panel data from 1995 to 2004, showed that local fiscal expenditure is closely related to regional economic growth both in the short and long term, but the productive expenditure of local governments has no significant promoting effect. These literatures confirm the view of this paper from another way.

Therefore, we may have to rethink our policy that investing massive financial resources to infrastructure, such as roads, railways, bridges, power grids, telecommunications equipment and so on, will ensure conducive long-term development of economy. As the saying goes, “beyond is as wrong as falling short.” Excessive emphasis on infrastructure has not been conducive to long-term economic growth. The appropriate scale and structure of public expenditures is helpful to economic development. Taking into account the long-term effects land finance on economic growth, controlling the scale of land finance and optimizing the structure of government expenditure are necessary.

3. The impact of land finance on the economic structure

With the increasing proportion of land granting fee, land finance has solidified into a part of the current system and currently has a significant impact on the economic structure. Furthermore, land finance results in strong distortionary effects to economic structure by land policies, fiscal expenditure policies, price effect and so on.

Firstly, there is a distorting effect on wealth redistribution. That is mainly reflected in two aspects. On one hand, wealth redistribution takes place in the process of land acquisition. The urban-rural differences in land property right is an important reason land finance emerges. The duality of China's land market indicates that local governments can obtain land at an unfairly low price and transfer it at market prices by bidding, auction and listing. By this, local governments acquire massive land revenue. It means that farmland owners hand in a large share of their wealth to government and it is invested in infrastructure, most of which is in the city. Obviously, wealth is redistributed from rural to urban areas. On the other hand, wealth is redistributed with the rising of land and housing prices, which is promoted by land finance. This increase of price implies that new buyers must spend more money buying a house. The welfare of urban inhabitants, especially the residents who already have housing, is improved by infrastructure construction, but the welfare of new residents decline. This redistribution effect is consistent with land finance growth, so it exists throughout the entire duration. The wealth redistribution effects of land finance broaden the gap between the rich and the poor, e.g. urban and rural residents, with and without housing. It increases the cost of urbanization and restricts the development of rural

society. And it does not conform to the principle of social justice. This is an important reason for social contradictions becoming increasingly acute and mass disturbances increasing.

Secondly, land finance has brought a significant distortion to industrial structure development. In one respect, quick rise in land prices causes developmental abnormality in the related industries. With the rise of land prices, local governments income becomes more abundant and government investment also increases. These government investments play an important role in guiding industrial structure evolution. In recent years, most of land granting fees are invested in urban infrastructure, so that the construction industry and the real estate industry have rapidly grown and some other related industries have been driven up, such as manufacturing of building materials, hardware, electrical appliances and so on. However, government investment is also the main reason for the overcapacity in some industry and a lot of resources are wasted. In another respect, land price hikes can lead to de-industrialization. The effects of cost change are distinct in different industries. Rise in land prices means that the cost of living, such as rent and carfare, and the cost of land increases. If benefits are not enough to offset the rising cost, labor and capital are bound to shift away from such an area. In this case, only companies with the power of monopoly pricing can realize expected profits and survive through cost shifting. The companies in the traditional competitive industries will withdraw from it. Under the current land transfer pattern, the rise in land prices inevitably leads economic structure to be de-industrialized. The distortion of industrial structure induced by land finance not only impedes China's economic transformation and industrial upgrading, but also affects adversely the long-term economic development with the irrational structure gradually solidifying into economy. Meanwhile, the abnormal development of traditional industries and the real estate related industries harm the domestic economy's ability to withstand external shocks, thereby staying in the disadvantageous position in international competition.

Thirdly, economic resources are misallocated under the existing scheme. The fundamental characteristic of market economy is spontaneity, by which to allocate resources and organize production. However, in China local governments monopolize the land supply in the primary land market¹ under the current land policy and its intervention in land allocation results in excessive controls in the land market. Thus market does not effectively exert its allocation function. Besides, a mass of land granting fees are invested into productive areas for a long time. By this, the private investment is stimulated and the regional economic growth is accelerated. But because of a strong sense of planned economy, it goes against the transform trend towards public finance. On one hand, the distortion of resources allocation must decrease the aggregate production efficiency. The value of the land is not maximized. On the other hand, with the expansion of land finance, it is hard to draw clear lines of demarcation between government and market. To prevent market reforms that we have been promoting for years from retreating, it is necessary to take appropriate controlling measures.

Fourthly, real property market movements are distorted under current policies. For one aspect,

¹ The primary land market refers to the transfer of land use rights from the state to the user through land leasing.

local government is increasingly like “economic man”. Local government generally pursues revenue maximization and increase of fiscal resources with the monopolistic advantage in the real estate market though the motivation is the desire to develop the economy. Since the local government is the biggest gainer in the real estate market and increasingly dependent on land finance, it has an impulse to intervene in the market when land prices fluctuate.

For the other aspect, large state-owned enterprises, which belong to local governments in general, play an important role in upward land price shifts rather than a stabilizing role in real estate market. The monopoly of state-owned real estate enterprise undermines the sound development of real estate market. Simultaneously, speculation caused by rise of house prices exacerbates the supply-demand relationship of real estate market. Real estate enterprises compete for resources with enterprises in other industries, so that some industries, which are of vital importance to the nation’s economy and the people’s livelihood, are squeezed out.

Although land finance helps to increase local government revenue and expenditure and to promote economic growth in the short term, but in the long term land finance creates serious distortions. These distorting effects can hinder economic development and affect the transition path of China. So, it is important to identify and prevent risks during post-“land finance” period in advance.

4. Risks during post-“land finance” period

Given the proportion of land finance in local government revenue, after the tax-sharing reform in 1994, land finance development can be divided into three stages which are starting stage, developing stage and quitting stage. The quitting stage is always called post-“land finance” period. The starting stage was the period of 1994-1999¹. In this period, land granting fee took a only 6.94% in local government revenue, which had very limited influence on the economic growth. The developing stage began in 2000 with urban housing reforms and rapid urbanization. In this period, land granting fee took an increasing part in local government revenue and jumped close to 66.73% in 2010. Land granting fee has been playing a crucial part in local government revenue. Thus, the economic growth increasingly depended on land finance, and this underpins local government interests in land finance. In quitting stage, due to depletion of land resource, land granting fee inevitably takes a lower part in local government revenue and the problems emerge by unsustainable characteristic of land finance. The successful operation of land finance is based on the monopoly power of local government over land use in urbanization. But China’s urbanization rate has begun to weaken since 2011. The speed of land urbanization has outpaced population urbanization, and the growth of land urbanization speed is decreasing. Meanwhile, the exploring cost of land is rising, which has accounted for about 85% of land granting fee (He, 2011), so land revenue of government decreases. As a conclusion, we can say that post-“land

¹ The tax-sharing reform in 1994 is the institutional foundation of land finance emergence and it is the basic institutional framework of modern financial systems, so we take it as the starting year of land finance development.

finance” period is coming and there is no doubt that land granting fee will sharply decline in future.

In post-“land finance” period, with the phasing out of land finance, local government revenues began to fall. There are two problems we need to resolve. The first problem is how to maintain economic stability. In the land finance mode, local governments successfully achieve the aim of economic growth by land transfer and expenditure expansion. Its essence is overdrafting future revenue to expand the current public spending, and that is unsustainable. Land granting fee is mainly invested in infrastructure that construction cycle is generally longer when the fiscal revenue is sufficient. Thus, in the period of land finance phasing out, it is difficult to continue the unfinished projects and the policy choice will be restricted. The question then is how to ensure the steady growth of public services during the construction process of public finance. Although the sources and the scale of government revenue are greatly expanded in the current mode, the investments in people’s livelihood grow more slowly than expected due to the GDP-oriented performances evaluation model. That the public service offer lags far behind economic development needs improving. The priority issue that should be considered when making the decision of the position to invest should be to ensure necessary public service scale during post-“land finance” period.

The current system decides that local government officials prefer to overdraft financial resources without considering the source of future revenue. In post-“land finance” period, local government is bound to take various measures, including severe taxation, increase of non-tax revenue and implicit debt, to achieve financial stability in the short run, among which, severe taxation is the most common measure and easiest way to take to increase the short-term revenue. These methods include increased taxation efforts, change in taxation methods, enhancing penalties. But it does not take into account the principle of “fair and just tax and taxation according to ability” and even leads some enterprises to become bankrupt or migrate because of heavy tax burden. Increase of non-tax revenue is another commonly used measure to increase local government revenue. When one item of revenue decreases, government departments customarily chose to charge a similar item to maintain the income stability. That is similar to the process of trial and error. Since the hasty introduction of new revenue projects requires a long costly adaptation process, only the practiced and refined path could integrate into the original system. In recent years, implicit debt has become an important means through which local governments get supplementary financial resources. With the decrease of land revenue, the local governments begin to seek additional debt. However, there is a great risk of surging of local debt with the ineffective of self-restraint and lack of supervision.

In post-“land finance” period, land revenue fluctuates more frequently and its risks are much larger and difficult to deal with. Local government, real estate enterprises and residents have been bounded as a chain of benefit by loan procedure. The real estate price decline causes the land revenue decrease and public funds based on land is reduced, then it could causes serious financial trouble.

Based on data from the Ministry of Finance of the People’s Republic of China (MFPRC), local

government debts have amounted to RMB 5.6 trillion yuan in China in 2009. If coupled with the state-owned enterprises, which belong to local governments, the local debt has exceeded RMB 13 trillion yuan. These debts are mostly based on land granting fee for repayment. Volatility of land granting fee increases the potential risk of fiscal system. Therefore, if the local governments cannot repay loans in time, it can affect the financial system stability and even bring the economy to a state of near collapse.

It is determined by the characteristics of the land finance pattern that the local governments face a myriad of problems and risks. Forward-thinking and analyzing of these issues are crucial to formulate effective preventive measures and ensure the sustainable development of China's economy in the future. Understanding in the context of China's economic transition, not only helps to solve the problem itself, but also helps to take care of the thorny issues in the post-transition period of China.

5. Conclusions

Systemic retracking and transiting in development are two main targets in the whole economic transformation and, simultaneously, they impenetrate the whole process of economic transformation in China. The appearance of land finance stems from the disorder and incongruence between systemic retracking and transition in development.

Inside consideration should be taken into account in the process of China's economic transformation to solve the land finance problem. More specifically, several reform aspects should be propelled below in terms of systemic retracking. Firstly, the government target should be gradually changed and its behaviors should be full specified including reducing the over-interrupted governmental economic activities especially the investment impulsion of local governments to improve the governments' function in public services. Secondly, the binary land policy should be gradually abolished to eliminate the long term imbalance in urban-rural development. Thirdly, the current fiscal decentralization policy should be optimized. Specifically, the unmatched finance and affair power of central and local government is one of the main factors in land finance appearance. Therefore, solving the problem is a crucial part in fiscal system optimization and thereby standardizing the government function.

With the consideration of social development, land finance has been actually endogenous in China's economic development, and the unsustainability of land finance leads to the unsustainable development of the land finance oriented economy. Conclusions will be made as follows. Firstly, in the short run, land finance exacerbates the stability of economic growth and thereby increases public expenditure and promotes economic growth. Nonetheless, land finance may not exactly promote economic growth in the long run and lead to gradual disorder in economy instead. Secondly, in the post-"land finance" period, China's macroeconomic development suffers from huge risk without reducing negative effect of forsaking land finance in fiscal reform.

According to the conclusions above, some suggestions should be split out. Firstly, ameliorating local taxation system by collecting real-estate tax and property tax should be an

appropriate solution to make a steady income flow for local governments in the long term. Secondly, budget system should be ameliorated by changing current soft budget constraint to hard budget constraint' and mid-term budget management framework should be established to maintain government income and expenditure. Thirdly, local debt trials policy should be promoted continually to consolidate fiscal independence of local governments and their power of policies' implementation should be enlarged as well. Lastly, fiscal transparency of governments should be improved and, specifically, the supervision and restrict of local governments should be strengthened by building monitoring system from the bottom-up to prevent the loss caused by the insufficient surveillances of higher level government.

References

- Barro, R. J. (1990). Government spending in a simple model of endogenous growth. *Journal of Political Economy*, 98 (5), S103-S126.
- Du, X. J., Huang, Z. H., & Wu, C. F. (2009). China's land fiscalization and economic growth: an analysis based on provincial panel data. *Finance & Trade Economics (Caimao Jingji)*, 1, 60-64.
- He, R. L., (2011). Local fiscal behavior risk research in post-"land finance" period based on finance social science perspective. *Issues in Agricultural Economy (Nongye Jingji Wenti)*, 1, 95-99.
- Liao, C. H., & Yu, K. (2006). The composition of local public expenditure and regional economic growth. *Finance & Trade Economics (Caimao Jingji)*, 11, 41-47.
- Liu, S. Y., & Jiang, X. S. (2005). Financial risks of land financing by local governments. *China Land Science (Zhongguo Tudi Kexue)*, 5, 3-9.
- Xue, B., & Chi, X. (2010). Land finance, rent-seeking & economic growth. *Public Finance Research (Caizheng Yanjiu)*, 2, 27-30.
- Yan, C. L., & Gong, L. T. (2009). Public expenditure, taxation and long run growth. *Economic Research Journal (Jingji Yanjiu)*, 6, 4-16.
- Ye, J. P. (2012). Post-land finance period may come soon. *China Real Estate Market (Zhongguo Dichan Shichang)*, 1, 94.
- Zou, H. (1996). Taxes, federal grants, local public spending, and growth. *Journal of Urban Economics*, 39 (3), 303-317.