The contribution of fiscal/financial decentralization to the debt expansion of the local financing platform

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Abstract: Using soft budget theory to explore the formation mechanism and the deep institutional incentive of the local financing platform debt expansion from the perspective of fiscal/financial decentralization, construct theoretical framework which explain the expansion of local debt financing platform and conduct an empirical test, the results showed that the higher the degree of fiscal decentralization, fiscal autonomy as a soft constraint body of local government the stronger, local financing platform debt scale is greater; the higher the degree of financial decentralization, local government and financial institutions have the higher autonomy with respect to the central, local financing platform debt scale is bigger; financial synergy degree is stronger, local government financial mutual supervision prompted the local government debt more transparency, local debt financing platform size is smaller.

1. Introduction

The local government debt expansion is not only the financial problems, it is a comprehensive problem involving finance, financial and economic institutional resources. Although the new budget law will add local debt financing platform out of local government debt, the function that the debt of local financing platform to provide financial support for local and indirect light fiscal pressure favorable is same as local government debt. The essential character shows that the delicate relationship between the two is difficult to cut off substantially. Overall the point of view, both are responsible for the debt itself. The incentive between local financing platform debt and local government debt should be consistent. This article carries on the analysis from the perspective of dual soft budget constraints, and the incentives for expansion of some local government debt will be refered to the incentives for debt expansion in local financing platforms. Some literature regarded the soft budget as a local financing platform debt expansion incentives. MA Zhu and Wang Jie demonstrated that the pressure of local vertical budget competition is an important financial reason for the formation and development of local financing platform, show that the fiscal soft budget constraint is an important reason for the formation of local financing platform[1].

The problem about soft budgetary restraints and Local government debt expansion was discussed beginning with the Vertical fiscal imbalance proposed by the first generation of fiscal federalism theory built by Tiebout [2], Musgrave[3] and Oates [4], leading scholars use Kornai’s (1986) soft budget constraints [5] to study the soft budget constraint problem of fiscal federalism (Wildasin[6]; Velasco [7]), and to explore the causes of local government debt expansion. Domestic scholars pay close attention to the problem of local government debt risk of local financing platform began in 2008 after the financial crisis. Mainstream research uses fiscal decentralization theory to analyze the causes of local government debt expansion. They combined China's financial and financial system environment to study the governance of debt inflation ([8] [9][10]; Wang Xuguo. Xu Poling, Zheng Yan Xia[11]; Ge Hejun,
Gou Ting[12]).

The research on the formation mechanism of soft budget constraint and the expansion of local government debt mainly focuses on the following two aspects. First, fiscal decentralization and local government soft budget constraint. Based on the theory of fiscal federalism, Raju Plekhanov [13] thought that the vertical fiscal imbalance generated by fiscal decentralization generated will form a soft budget constraint of local government. Twelve Yang, Li Shangpu [14], Wang Xuguo [10], Xu Poling, Zheng Yanxia [11], Ge Hejun, Gou ting [12] agreed that under the background of fiscal decentralization in China, the soft budget constraint of local government makes it have the intrinsic incentive of large-scale debt. Ma Entao, Yu Hongliang [15] analyzed the relevance of fiscal decentralization, local government debt control and soft budget constraint. However, Goodspeed [16] argued that the soft budget constraint does not necessarily lead to local government debt expansion. Gong Qiang [8] pointed out that fiscal decentralization will lead to local government financial distortion is circumstantial, requires a combination of macroeconomic management, laws and regulations are imperfect, the local government debt management regulations and other factors to consider. Second, financial decentralization, dual soft budget constraint of local government and financial institution. Dewatripont Maskin and [17] Dewatripont Roland’s simplified model [18] pointed out that the socialist economy and the transition economy has more common and more serious soft budget constraints than the capitalist economy, because of the concentration degree of the financial system. Because the soft budget constraint must also have soft budget constraints and soft budget constraint support can be established, in Chinese dual soft budget constraints (local government and state-owned financial institutions), the relationship between the local financing platform usually is the link between the dual soft budget constraint. Most domestic literatures have studied the mechanism of dual soft budget constraint under the financial decentralization with the state-owned banks representing the state-owned financial institutions. Shi Hongxiu [20] pointed out that the root cause of local government debt is that there was not the budget constraint of bankruptcy liquidation under the system environment of the three party symbiosis of domestic state-owned resources, state-owned assets, and the state-owned bank. Zeng Fanhua [21] demonstrates the synchronous amplification mechanism between local government financial risk and bank risk, Zheng Hua [22] pointed out that excessive local government debt is the result of dual soft budget constraint between local government and state-owned banks.

The existing literature analyzes the causes of the expansion of local government debt expansion system mainly starting from the perspective of fiscal decentralization. After gradually into the financial system, the literature taking into account the financial interaction is lack. Most of the literature was on the list of the expansion of local debt causes and policy measures. Their relevance and policy mechanism were not well considered. At present, there is lack of empirical research on the cause of debt expansion of local financing platform. Thus, it is difficult for the existing research to explain the logic of the debt expansion incentive of the domestic local financing platform and provide effective policy recommendations. From the angle of dual soft budget constraint standpoint, this paper analyzes the institutional cause of debt expansion of local financing platform theoretically, at the same time, it constructs three explanatory variables of fiscal decentralization, financial decentralization and financial parallel interaction, and makes empirical tests on the institutional causes of the debt expansion of the local financing platform, and provides a way for local financing platform of debt governance.

2. Research hypothesis
From the perspective of fiscal decentralization, financial decentralization and the financial and financial co integration system, combined with the soft budget constraint theory, the paper analyzes the causes of the debt expansion of the local financing platform, and put forward the corresponding research hypothesis.

2.1 fiscal decentralization and local financing platform debt
The higher the degree of fiscal decentralization, the stronger the financial autonomy, and the greater the degree of local government debt. Based on which, the first hypothesis is put forward:
Hypothesis 1: the degree of fiscal decentralization has positive impact on the debt expansion of the local financing platform.

2.2 financial decentralization and local financing platform debt
The greater the degree of financial decentralization, the stronger the financial autonomy, the higher the degree of indebtedness of the ultimate local government. Based on which, the second hypotheses IS put forward:

Hypothesis 2: the degree of financial decentralization has positive impact on the debt expansion of the local financing platform.

2.3 financial and financial interaction and local government debt
Local fiscal and financial coordination is also more cooperative finance to mutual supervision of finance, to a certain extent, increase the degree of transparency of local government debt, so the financial influence degree of interaction of local financing platform debt expansion is negative. Based on which, the third hypotheses is put forward:

Hypothesis 3: financial synergy has negative impact on the local financing platform debt expansion.

3. Model design

3.1 Variable design
Variables are defined in table 1. Among them:

1) the degree of fiscal decentralization,

\[ \text{fisd}_{i,t} = \frac{X_{i,t}}{\sum_{m=1}^{10} X_{m,t}} \] (1)

2) the degree of financial decentralization,

\[ \text{fin}_{i,t} = \frac{(Y_{i,t} \cdot \text{GDP}_{t})}{\sum_{m=1}^{10} Y_{m,t} \cdot \text{GDP}_{m,t}} \] (2)

3) the degree of financial and financial interaction is shown as cross variables fisdi, t* finci, t. It reflects the parallel interaction of Finance and finance and the characteristics of mutual supervision.

Among them, m=1, 2, 3……10 , on behalf of the representative cities of Shanghai, Beijing, Nanjing, Guangzhou, Hangzhou, Chongqing, Tianjin, Nanchang, Chengdu, Wuhan, t=2005, 2006,……2015.

3.2 research methods
The panel measurement model is adopted, and the specific model is as follows:

| Variable code | Variable name | Variable definition |
|---------------|---------------|---------------------|
| GDP | Gross domestic product | Gross domestic product of the country |
| gdp | Regional GDP | Regional GDP |
| DR | Local government debt ratio | The city investment debt scale represents the local financing platform debt scale, accounts for the total size of all local financing platform debt |
| fisd | Relative degree of fiscal decentralization | Local finance divides the relative capacity of the national revenue |
| finc | Relative degree of financial decentralization | Local finance divides the relative capacity of national financial resources |
| fisd*finc | Degree of interaction between finance and Finance | Financial and financial parallel interaction, mutual supervision and coordination |
| X | Degree of fiscal decentralization | The absolute ability of local finance to split the national revenue |
4. statistical analysis

Firstly, in order to avoid the regression distortion caused by heteroscedasticity and sequence autocorrelation, the Unrelated (Seemingly) Regression (SUR) is used to estimate the equation (individual fixed effects). According to the data, can handle (3) (4). Where \( i \) stands for city \( i \), \( t \) stands for year \( t \), \( i=1, 2, 3, ..., 10 \), \( t=2005, 2006, ..., 2015 \); \( C_i \) indicates the fixed effect of individual city \( i \) on the intercept term.

\[
DR_i, t = -0.1170 + C_i + 2.0519 \text{fisd}_i, t + 0.7012 \text{finc}_i, t - 5.5177 \text{fisd}_i, t \cdot \text{finc}_i, t ; \quad \text{(3)}
\]

Among them, Adjusted R-squared =0.9951, Adjusted R2 is higher, representing a good fitting degree; Durbin-Watson stat=2.2133, the D.W value is close to 2, indicating that there is no autocorrelation; F=1857.7760, representing the regression equation is significant.

To investigate the influence of financial decentralization on the debt expansion of local financing platform:

1) The regression coefficients of each region are the same, however, the impact of fiscal decentralization and financial decentralization on local financing platform debt at various points of time is different because of financial interaction variables. As a whole, fiscal decentralization and financial decentralization have different effects on the debt scale of the local financing platform in different points of time and regions. The coefficient of cross variable is negative. It shows that the stronger financial and financial synergy, fiscal and financial coordination and mutual supervision prompted the local debt financing platform is relatively more transparent, will respectively reduce independent positive impact of fiscal decentralization and financial decentralization of local financing platform debt expansion, local financing platform debt will be smaller.

2) According to Wood Rich econometrics, when cross variables occur, the average is used to estimate them, the degree of fiscal decentralization affects the expansion of the local financing platform debt as a whole:

\[
\frac{\partial DR}{\partial \text{fisd}} = 2.0519 - 5.5177 \cdot 0.1009 = 1.4952 ; \quad \text{...............(4)}
\]

This shows that the degree of fiscal decentralization has a positive impact on the debt expansion of the local financing platform. Within a certain range, the higher the degree of fiscal decentralization, the greater the scale of the debt of the local financing platform; at the same time that the financial cooperation of the local debt financing platform scale influence can not be ignored. This shows that the positive effects of local government officials on the pursuit of performance and the above hypothesis of moral hazard may have exceeded the negative effect of debt incentive by increasing the financial revenue itself.

3) Cross variables are estimated on average. The overall impact of the degree of financial decentralization on the size of the local financing platform debt is indicated as follows:

\[
\frac{\partial DR}{\partial \text{finc}} = 0.7012 - 5.5177 \cdot 0.1 = 0.1494 ; \quad \text{...............(5)}
\]

This shows that the degree of financial decentralization has a positive impact on the size of the local financing platform debt. Within a certain range, the higher the degree of financial decentralization, the greater the scale of the debt of the local financing platform; at the same time that the financial cooperation of the local debt financing platform scale influence can not be ignored.

To sum up, the degree of debt expansion of the local financing platform is positively influenced by the degree of fiscal decentralization and the degree of financial decentralization. Fully demonstrates that institutional design should take into account the importance of local government officials, "economic participants" and "political participants". Namely, whether in theory or empirical analysis, it shows that the soft constraints of financial / financial system is an important incentive system of local debt financing platform expansion, and provides a way to finance comprehensive management of financial debt of local...
financing platform.

5. Conclusion
This paper analyzes the causes of the debt expansion of the local financing platform theoretically, and tests the theory from an empirical point of view. In theory, the fiscal decentralization and financial decentralization caused by the financial / financial system arrangement have led to the soft budget constraint. Soft budget constraint may be the root cause of the debt expansion of the local financing platform. Fiscal decentralization and financial decentralization can be an important institutional inducement for the expansion of local financing platform. Statistical analysis shows that there is a long-term stable equilibrium relationship among the degree of financial expansion of local financing platform, the degree of fiscal decentralization, the degree of financial decentralization and the degree of financial and financial interaction in different regions of China. The degree of fiscal decentralization and the degree of financial decentralization have a positive impact on the debt scale of the local financing platform. However, financial synergy will decrease the effect of fiscal decentralization on local financial / the size of the debt financing platform.

This article provides a train of thought for the governance of local financing platform debt, and has certain practical significance. To effectively control the expansion of the debt scale of the local financing platform, the system arrangement of fiscal decentralization and financial decentralization should be considered. At the same time, we should promote financial and financial interaction, mutual supervision, improve the transparency of local financing platform debt transparency.

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