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The Lease-debt Relationship of Chinese Local Government Financing Vehicles

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Abstract: In recent years, the number of local government financing vehicles in China has been increasing, the scale of development has been expanding rapidly, and the financing methods used have also been increasing. At present, bank loans are still the main financing channels, but the financing lease mode has become one of the important ways for local government financing vehicles to obtain financial access. This paper mainly studies the lease-debt relationship of Chinese local government financing vehicles, and selects the unbalanced panel data of 1435 Chinese local government financing vehicles from 2012 to 2020 for empirical analysis. The empirical results show that the relationship between the lease ratio and the loan ratio is significantly negative, indicating that the lease-debt relationship of the local government financing platform in China is a substitution relationship. Increasing the use of lease financing will reduce the use of loan financing by the local government financing platform, while the control variable bond ratio, total assets, leverage ratio and cash ratio also have a significant impact on the lease ratio, Finally, based on the empirical results, this paper analyzes and puts forward corresponding suggestions.

1. Introduction

Since the new Budget Law of 2015 explicitly prohibits other local government debt models other than issuing local government bonds, the local government financing platform has to open up other financing channels other than bank credit, including financial leasing provided by non-bank institutions, equity financing with repurchase clauses, entrusted loans, trust loans, etc. Because of its flexibility, convenient operation and quick release, financial leasing quickly entered the vision of local government financing platform selection and became an important force in its financing. At present, bank loans are still an important source of financing for local government financing platform, so it is of great significance to study the lease-debt relationship of local government financing platform.

Scholars have carried out a lot of research on local government financing vehicles, among which Qian Yuanda (2015) [1] pointed out the advantages of financing leasing by exploring innovative financing methods of local government investment and financing vehicles in 2015, providing a new perspective for platform enterprises' financing. Liu Juan (2018) [2] proposed that the expansion of financing channels such as financial leasing mode can promote the improvement of the financial strength of the government financing platform and better guarantee the construction of urban infrastructure in China. Zhao Na and others (2021) [3]conducted empirical research by sorting out the annual financial leasing data of A-share listed companies in Shanghai and Shenzhen, and concluded that both financial leasing and bank credit can significantly promote the investment efficiency of companies, and that financial leasing has a significant substitution effect on bank credit.Yang Ting and Shi Yanping (2022) [4] used the data of listed companies to empirically test the impact of Zhongdeng on the governance effect of financial leasing debt, and pointed out that the governance effect of financial leasing on state-owned enterprises is significantly negative. Lin Youlin (2022) [5], based on the current situation that the supervision of local government financing vehicles is becoming stricter, analyzed the current development status of local government financing vehicles and the debt evolution, and made suggestions on improving the fiscal and tax system with reasonable matching of rights and responsibilities. Based on the existing literature, there are few studies on the relationship between lease financing and bank loans in the process of local government financing platform financing. Therefore, this paper uses multiple linear regression model to quantify the relationship between the two, and analyzes on this basis.

2. Theoretical Analysis

As an important cornerstone of corporate finance research, MM theory has become the starting point of debt substitution theory research. According to the classical financial theory, without considering the tax, default risk and other financial market frictions, the financial leasing and bank credit can be completely replaced, that is, under the condition that the company's debt capacity is fixed, the increase of leasing will inevitably lead to the reduction of bank loans, and the financial leasing has a substitution relationship with bank loan financing. From the perspective of enterprise financing, when an enterprise faces the constraints of financing conditions, both financial leasing and bank loans have the "financing attribute" to alleviate the constraints of enterprise financing conditions, which can affect the debt and financing level of the enterprise. When the cost of one financing method increases, the financing rate of this financing method will decrease. At this time, the promotion effect of the other financing method on enterprise investment will be magnified as an alternative financing channel. Therefore, according to the classical financial theory, the debt capacity of China's local government financing platform is fixed. When the amount of financing obtained through bank loans is more, the amount of financing obtained through financial leasing is less. There is a substitution relationship between financial leasing and bank loans.

3. Variable Description and Model Construction

3.1. Variable Selection

Based on the research in this paper, the data is selected from the panel data of 1435 local government financing vehicles from 2012 to 2020. The explained variable is lease_ratio, which is derived from the ratio of the sum of long-term lease payments payable and long-term lease payments payable within one year to total assets in the company's statements; The explanatory variable is loan_ratio, which is derived from the ratio of the sum of long-term and short-term loans in the company's financial statements to the company's total assets; In addition, four control variables are selected, one is the bond ratio, which is derived from the ratio of bonds payable to total assets in the financial statements; The second is total assets (a), the third is leverage ratio (lev), which is the ratio of total liabilities to total assets, and the fourth is cash_ratio, which is the ratio of monetary funds to total assets. All the original data in this paper are from the financial statements of local government financing vehicles.

3.2. Model Setting

In order to reduce the impact of heteroscedasticity, the absolute number variable in the variable, namely total asset a, is logarithmic. The basic model is as follows:

$$lease\_ratio_{it} = \beta_0 + \beta_1 loan\_ratio_{it} + \beta_2 bond\_ratio_{it} + \beta_3 lna_{it} + \beta_4 lev_{it} + \beta_5 cash\_ratio_{it} + \varepsilon_{it} \quad (1)$$

In the above formula: i represents the ith local government financing platform company; t is the year t; ε_{it} is a random disturbance term.

3.3. Descriptive Statistics

Table 1: Descriptive statistical results.

variable	N	mean	p50	sd	min	max
lease ratio	14261	0.00600	0	0.0730	0	4.643
loan ratio	10255	0.217	0.195	0.129	0	0.865
bond ratio	9283	0.0920	0.0830	0.0540	0	0.484
lna	14261	23.51	23.45	1.010	18.67	27.92
lev	14252	0.492	0.506	0.163	0	0.992
cash ratio	14225	0.0800	0.0670	0.0610	0	0.839

Due to the lack of local government financing platform data in some years during the data collection process, the unbalanced panel data is constructed for analysis. It can be seen from Table 1 that the standard deviation of total assets is the largest, indicating that its volatility is large, and the standard deviation of other variables is less than 1, with a small degree of dispersion. The explained variables and explanatory variables have good attributes in data description.

4. Empirical Results and Analysis

In the selection of panel data model, the p value of Hausmann test fails to reject the original hypothesis of random effects. Therefore, this paper uses the random effects model for regression and analysis. The regression results of the random effects model are as follows:

Table 2: Regression results of random effect model

	lease_ ratio
loan_ ratio	-0.042^{***}
	(0.006)
bond_ ratio	-0.020^{**}
	(0.009)
lna	0.002^{***}
	(0.001)
lev	0.040^{***}
	(0.006)
cash_ ratio	0.024^{**}
	(0.009)
_ cons	-0.059^{***}
	(0.019)
N	six thousand nine hundred and thirty-one

Standard errors in parentheses * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

It can be seen from Table 2 that the loan_ratio coefficient of the explanatory variable is -0.042, and the negative coefficient indicates that the loan ratio and the financial leasing ratio are substitution relations, that is, the financial leasing ratio of the local government will decrease by 0.042% for each 1% increase in the loan ratio. The loan ratio to the local government's financial leasing ratio is significant at the level of 1%, indicating that it is an important factor affecting the local government's financial leasing ratio. The higher the loan ratio, the lower the local government's financial leasing ratio. The change of the loan ratio of the local government financing platform in China is sensitive to the change of the financing lease ratio. The main reason is that in recent years, the local government has further increased the advantage of financing by means of financing lease, while the way of financing by means of loans is limited due to its own characteristics.

The bond_ratio coefficient of the control variable is -0.020, which is significant at the level of 5%. The increase in the ratio of bonds used by local governments in the process of financing will largely weaken the ratio of financial leasing. For each 1% increase in the ratio of bonds, the ratio of financial leasing will decrease by 0.02%. The coefficient of the logarithm of total assets (lna) is 0.002 and is significant at the level of 1%, indicating that the financial leasing ratio increases by 0.002% for each 1% increase in the total assets of the local government financing platform. The more total assets, the greater the proportion of local governments using financial leasing for financing. The coefficient of leverage ratio (lev) is 0.040 and is significant at the level of 1%. For every 1% increase in leverage ratio, the financing lease ratio increases by 0.04%. The higher the leverage ratio of local government financing platform, the greater the financing lease ratio. The cash_ratio coefficient is 0.024 and is significant at the 5% level. Its impact on the finance lease ratio is lower than that of the total asset pairs and leverage ratio, but it still has a relatively significant impact.

5. Enlightenment and Suggestions

Based on the empirical research in this paper, we can conclude that the lease-debt relationship of local government financing platform is a substitution relationship, and the debt ratio of local government financing platform is an important factor that affects the lease ratio. The use of loan financing has a significant inhibitory effect on the lease ratio in the process of local government financing. Based on this, this paper puts forward the following suggestions on the financing methods used by local governments in the financing process:

(1) Give full play to the advantages of financial leasing

The comprehensive cost of financial leasing is moderate, among which the leaseback model is mainly used in urban infrastructure construction, which can activate the stock capital, improve asset liquidity and reduce the debt burden. At the same time, lease financing is an alternative relationship to debt financing, so more use of financial leasing for financing can also reduce financial risks and improve the asset-liability structure of local government enterprises.

(2) Promote the marketization of financing behavior

Financing marketization includes asset securitization and bond issuance and other financing structure models, which requires high transparency, market constraints and standardized management level. Local governments can promote the development of marketization of local government financing platform financing behavior by encouraging enterprises to issue bonds or creating conditions to help enterprises go public and try to use more market-oriented financing methods to operate infrastructure projects.

(3) Expand financing channels

Under the new situation, the problem of debt management of the local government financing platform is prominent. Under this background, the local government financing platform can actively expand overseas financing, attract overseas funds, enhance the strategic influence of the local government financing platform. At the same time, in combination with its own economic development, it can adopt diversified payment to alleviate financial pressure and avoid debt risk.

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