

The Analysis of China Quasi-Municipal Bonds' Issuing Spread

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Abstract

The development of China Quasi-Municipal bonds began in 1994 with China's tax system reform which determines the current tax-sharing fiscal system of "primary finance, first-level authority". Under this fiscal system, local governments often face the embarrassing situation that their responsibility is greater than financial power. Therefore, the local government has to solve the shortage of local construction funds by setting up a city investment company to issue city bonds. From the perspective of implicit guarantee of local government, this paper constructs the theoretical analysis framework of government implicit guarantee. Based on the cross-sectional data of China's inter-bank Quasi-Municipal bonds in 2009-2017, through mixed regression, we can verify whether the implicit guarantee level of the government exists and its impact on bond issuing spread. In addition, the paper also introduced factors such as the underwriting reputation index and the financial indicators of the issuing entity, examining the reputation mechanism of the underwriter and the market positioning of the city investment company. Through empirical analysis, this paper has the following findings: First, the financial situation of local governments can significantly reduce the issuing spread of Quasi-Municipal bonds, indicating the existence of government implicit guarantees in the bond market. Second, the urban investment company's factors often have no significant impact on the issuing spread, reflecting its market position is mainly the role of "financing tools" not a traditional enterprise. Third, outstanding underwriters can significantly reduce the issuing spread of Quasi-Municipal bond, which verifies the existence of reputation mechanism in the bond market.

Keywords

Quasi-Municipal Bonds, Spread, Implicit Guarantee, Reputation Mechanism

1. Introduction

In the early 1990s, the State Council promulgated the “Decision on Implementing the Tax-sharing System of Fiscal Management System”, which marked the official kick-off of the tax-sharing system reform in China. The central government and local governments have determined their respective powers and the scope of financial power for this reform. “Dividing stoves to eat” promotes local governments to develop their economies and increase their enthusiasm for taxation. However, in this process, the problem of unmatched ownership and financial power becomes more and more obvious. This often leads to situations in which the responsibility is greater than financial power. The shortage of fiscal funds has gradually become a thorny issue for local governments. Issuance of bonds to finance has become an urgent need. However, China’s “Budget Law” clearly requires that local governments can’t issue local government bonds for financing. Subsequently, in order to circumvent the legal requirements, local governments adopted the establishment of local financing platforms to raise funds through the bond market in the form of enterprise legal persons. Quasi-Municipal bonds came into being. “Quasi-Municipal bonds” is the collective name for all kinds of bonds issued by urban construction investment companies, including enterprise bonds, corporate bonds, non-public, medium-term notes, short-term financing, targeted tools, project income notes and so on.

On July 22, 1992, in order to raise funds for the infrastructure construction in Pudong New Area, Shanghai Urban Construction Investment and Development Corporation issued the first Quasi-Municipal bonds in the history of China. Since then, Quasi-Municipal bonds have entered the vision of decision makers at all levels of government. In the face of funding gaps in infrastructure projects and other public welfare projects, local governments have found a way to solve the problem, through the city investment platform to issue Quasi-Municipal bonds for project financing. Quasi-Municipal bonds officially entered the arena of the bond market. After 2009, Quasi-Municipal bonds developed toward diversified varieties, not only limited to corporate bonds, and added general corporate bonds, non-public, medium-term notes, short-term financing, targeted tools, project income notes and so on. As of the end of 2017, the balance of Quasi-Municipal corporate debt was 2374.848 billion Yuan, accounting for 33.45% of the total; the balance of general corporate bonds and non-public was 1341.832 billion Yuan, accounting for 18.90%; medium-term notes, short-term financing bills, and directional instruments were 179.250 billion Yuan, 357.930 billion Yuan, and 12173.68 billion Yuan, accounting for 25.25%, 5.07%, and 17.15% respectively.

Before 2014, there was no substantial default in the China bond market, but after 2014, there were frequent occurrences of bond defaults. “14 CHAORI BOND” as the first substantive default bond in China’s public bond market completely opened Pandora’s bond default. According to the wind database statistics, as of December 31, 2017, there were a total of 156 defaulted bonds in the

Chinese bond market.

In response to the possible chain reaction caused by bond defaults, in 2014, the State Council issued Circular 43 “Opinions on Strengthening the Management of Local Government Debt Management”, which requires local governments to screen existing debt stocks and start debt swaps for local debt that is included in government debt. However, during the work of debt screening, many Quasi-Municipal bonds such as “14 TIANNING” and “14 WUGUOTOU” have not been included in the government’s debt management. At the same time, the provincial government launched a trial of local government debt issuance.

In addition, on March 28, 2018, the Ministry of Finance issued Circular No.23 “Circular on Regulating the Issues Related to Financial Enterprises’ Investing and Financing Behaviors of Local Governments and State-Owned Enterprises”, which clearly stipulates that in the process of bond issuance, if the source of revenue for the local government financing platform involves fiscal fund arrangements, the compliance and authenticity of the financial fund shall be carefully verified, and it is forbidden to disclose the information relating to the government’s credit in the bond prospectus, such as financial revenues and expenditures and government debts in the region, and relevant measures debt is paid by local state-owned enterprises as an independent legal person.

The above example shows that the “hidden guarantee” of local governments for Quasi-Municipal bonds is not certain.

2. Theoretical Analysis

2.1. Government Implicit Guarantee

In recent years, the study of government implicit guarantees on the pricing of the bond market has gradually become a research focus, on the one hand, due to the continued increase in the scale and influence of the domestic bond market in recent years; on the other hand, credit debt defaults have occurred frequently and government debt has been overburdened. Domestic scholars began to focus on the mechanism and effectiveness of government implicit guarantees on bond spreads.

In this paper, in order to study the impact of the government’s implicit guarantee on the Quasi-Municipal bonds’ issuing spread, we first need to clarify what the implicit guarantee is and identify whether the government implicit guarantee behind the Quasi-Municipal bond exists. If exist, what form does it have? And in what way?

The form of guarantee for China’s Quasi-Municipal bonds is mainly divided into three types: third-party guarantees, pledged guarantees, and no guarantees. As the name suggests, a third-party guarantee refer to guarantees provided by the government-controlled guarantee company as specified in the fundraising conglomerate, which is mainly divided into irrevocable joint liability guarantee and joint liability guarantee. Pledged guarantee refers to guarantee provided by the issuer’s own assets. Unsecured Quasi-Municipal bonds refer to Quasi-Muni-

cial bonds that do not have any form of guarantee. Taking into account a more accurate analysis of the government's implicit guarantee behind the Quasi-Municipal bonds, this article mainly selects the category of unsecured Quasi-Municipal bonds for discussion and research.

For unsecured Quasi-Municipal bonds, although there is no form of guarantee in the prospectus, the city investment company, as the most important financing platform for local governments in China, has a close relationship with local governments. And the purpose of the issuance of Quasi-Municipal bonds is mainly to resolve the funding gap in local infrastructure construction. Therefore, in the face of the unsecured Quasi-Municipal bonds issuance, the market tends to have the expectation that the local government will provide assistance when the bond default risk appears. We define this expectation as the market believes that there is a government implicit guarantee behind unsecured Quasi-Municipal bonds.

Implicit guarantees imply that the government does not have guarantee obligations and responsibilities at the legal level. However, due to the consideration of the close relationship between urban investment companies and local governments on the one hand, on the other hand, the local government doesn't provide assistance when the bond default risk appears, which will seriously affect the local government's credit level in the bond market, and there also will be many adverse effects on the new Quasi-Municipal bonds in the future, including rising issuance cost and even failure of the issue. Therefore, local governments with better fiscal conditions mean that they have stronger guarantee capabilities; and when Quasi-Municipal bonds face default risk, if the government's fiscal position is better, the financial losses for its relief will be less than the negative impact of not providing assistance. Its relatively low cost makes the government more willing to provide assistance.

2.2. Underwriter Reputation

The underwriter's reputation is the concentrated expression of the underwriter's operating scale, operating performance, and its comprehensive competitiveness in the market. The first of its kind to initiate the study of the "underwriter reputation mechanism" was the theory of "financial authentication" put forward by Booth and Smith (1986). It believed that intermediary agencies could provide more information about the true value of enterprises and reduce the information asymmetry between investors and issuers in the market [1]. Peng and Brucato (2004) have studied for U.S. municipal bonds and found that: Under the condition of serious information asymmetry in the primary bond market, the underwriters' certification system can significantly reduce the issuance costs of bonds. It is recommended that issuers choose a better-known lead underwriter in case of asymmetric information [2]. Fang (2005) uses market share as an indicator to measure the reputation of investment banks, and studies the impact of the price and quality of bond underwriting services on the reputation of investment banks. He believes that high reputation underwriters save the issuance costs

from the face value of bonds over the underwriting fees compared to ordinary reputation underwriters. The underwriter's reputation mechanism was verified, and the net income from high reputation underwriters remained positive [3].

At present, there is almost no journal article in China on how underwriter's reputation affects bond spreads. We only found that Tian Yuanbo and Shi Yongdong (2016) introduced the underwriter's reputation as the main underwriting qualification variable into its measurement model and did a simple analysis [4]. However, there is no unified view of the domestic academic community about whether the underwriter's reputation mechanism exists in the bond market. In the bond issuance market, the underwriter's business is a long-term sustainable behavior. The underwriter's reputation is slowly built up by the underwriter in past securities underwriting services. Judging from the mature bond market in foreign countries, a good underwriter reputation can help underwriters to obtain higher market share and profitability, and investors often link the reputation of underwriters with the quality of underwritten bonds: Well-honored underwriters often issue high-quality bonds. This cognitive preference puts underwriters in a position to protect their own reputational value and corporate profits. They tend to carefully consider the qualifications of their underwriting companies. If there is a default event on the underwritten bonds, the reputation of the underwriter will be damaged, which will affect the business volume and income of the underwriter. Therefore, underwriters with higher reputation tend to issue bonds with better corporate qualifications, which is in line with the reality that good companies in the bond market are mostly contracted by reputable underwriters. Investors can use the signaling mechanism of the underwriter's reputation to make bond investment choices and reduce information asymmetry in the bond market.

3. Research Design and Data Description

3.1. Research Design

The empirical part of this paper mainly examines the impact of government implicit guarantees on the spreads of Quasi-Municipal bonds. Since each city investment company does not issue bonds continuously every year, the data structure of this paper is a mixed cross-section data. Therefore, the econometric model we studied is set as follows:

$$\begin{aligned} \text{SPREAD}_i = & \alpha_0 + \beta_1 * \text{GUARANTEE}_i + \beta_2 * \text{GDPgrowth}_i \\ & + \beta_3 * \text{CPIgrowth}_i + \beta_4 * \text{ROO7}_i + \beta_5 * \text{SIZE}_i \\ & + \beta_6 * \text{PERIOD}_i + \beta_7 * \text{TURNOVER}_i + \beta_8 \\ & * \text{LEVERAGE}_i + \beta_9 * \text{ROA}_i + \beta_{10} * \text{REVENUE}_{\text{issuer}_i} \\ & + \beta_{11} * d1 + \varepsilon_i \end{aligned}$$

Specifically, this article describes in detail the factors affecting the spread of China's Quasi-Municipal bonds from the five levels of local government level, macroeconomic level, bond characteristics level, issuer level and reputation level of underwriters. The following **Table 1** shows the selection of each variable:

Table 1. The meaning and influence of each variable.

Variable type	factor	index	forecast
Explanatory variables	Local government finances	GDP per capita (GDP avg)	-
		public finance income (REVENUE gov)	-
	Macro factors	GDP growth rate (GDP growth)	+
		CPI growth rate (CPI growth)	-
Control variable	Bond factors	r007(ROO7)	+
		size (SIZE)	-
		period (PERIOD)	-
	Issuer factors	total operating revenue (REVENUE issuer)	-
		Roa (ROA)	-
		total asset turnover (TURNOVER)	-
virtual variable	Underwriter factors	debt ratio (LEVERAGE)	+
		lead underwriting reputation index (d1)	-

This paper concludes that the issuance spreads of Quasi-Municipal bonds are mainly affected by internal and external factors. The internal factors include debt-related factors such as the issuance size, the issuance period, and the relevant factors of the issuer such as total operating revenue, total asset turnover, asset-liability ratio, roa [5]; the external factors include macroeconomic factors such as GDP growth rate, CPI growth rate [5], regional development factors such as local GDP per capita, public financial income [6], and underwriters' reputation factors. In addition to being affected by the implicit guarantee level of the local government, the spread of Quasi-Municipal bonds is also affected by other factors such as the macro environment, the issue subject, the underwriter, and the bond characteristics [7]. Therefore, this paper will control other variables and conduct a regression analysis of the local government's financial status. So, this paper proposes the following hypothesis:

Hypothesis H1: The fiscal position of local governments has a significant negative effect on Quasi-Municipal bonds' issuing spread.

Hypothesis H2: Reputation of underwriters can significantly reduce the issuance spread of Quasi-Municipal bonds.

3.2. Data Description

In this paper, the data of the Quasi-Municipal bonds, the issuer's data, and the yield of the national debt are all from the Wind database. Local government financial data mainly comes from Wind database and some government official information public websites, and macroeconomic data mainly comes from Eastern Fortune Network, etc. The underwriter data comes mainly from the Wind Database and Securities Industry Association website.

China's Quasi-Municipal bonds include enterprise bonds, corporate bonds,

short-term financing bills, Medium-term notes, directional instruments, abs, convertible bonds and Exchangeable bonds. Quasi-Municipal bonds are mainly a concept sector classification, and their specific types of bonds are more numerous. The competent authorities include the National Development and Reform Commission, the China Securities Regulatory Commission and the Interbank Dealers Association. The trading venues are mainly divided into the interbank market and the exchange market. Considering that the issuance volume of enterprise bonds is an absolute majority of all types of Quasi-Municipal bonds, and the current research sample in the market is relatively sufficient, the information covered is more effective. Therefore, this paper ultimately selects Quasi-Municipal enterprise bonds as the research object.

Considering that there were fewer issuance of Quasi-Municipal bonds before 2009, the issuance of Quasi-Municipal bonds began to increase significantly after 2009, so this paper finally selected unsecured Quasi-Municipal enterprise bonds issued in the inter-bank market from 2009 to 2017. We removed some bonds with missing data, and the total number of samples is 1161. The descriptive statistics of major variables are in **Table 2**.

From the above table, the minimum value of Quasi-Municipal bonds issuance spread is 0.3428, and the average value is 2.77, which means that the issuance cost of Quasi-Municipal bonds is 277 BP higher than the average of the same-period National bonds. D1 represents the dummy variable of the underwriter's reputation score, with an average value of approximately 0.40, indicating that outstanding underwriters underwriting Quasi-Municipal enterprise bonds account for 40% of the total market. The average issuance period is 7.2, which shows that the issuance period of Quasi-Municipal enterprise bonds is mainly 7 years (medium and long-term). In general, the data of the variables selected in this paper are more in line with market conditions.

Table 2. Descriptive statistics of major variables.

Variable	Obs	Mean	Std.Dev	Min	Max
SPREAD	1157	2.765251	0.9273932	0.3428	5.2738
GDP avg	1157	60.51142	30.46318	10.215	207.163
REVENUE gov	1157	637.4451	904.8426	9.31	6406.1
GDP growth	1157	7.406223	0.6979922	6.7	12.2
CPI growth	1157	2.137251	0.7719142	-1.5	6.5
R007	1157	3.25934	0.8313348	0.9235	11.6217
SIZE	1157	12.72295	6.808132	2.5	80
PERIOD	1157	7.213483	1.530054	3	15
TURNOVER	1157	8.627476	9.15102	0.01	100.77
LEVERAGE	1157	44.85931	15.84635	0.3136	87.9307
ROA	1157	2.576667	1.904654	-3.1915	21.3881
REVENUE issuer	1157	33.21101	229.1955	0.0229697	6009.099
d1	1157	0.4053587	0.4911736	0	1

4. Empirical Results and Tests

4.1. Empirical Results

In the correlation test, we found that the correlation coefficient between GDP per capita and local public finance is high. In order to avoid the influence of multicollinearity, this paper chooses to add per capita GDP and public finance income in order in the regression model, which is also equivalent to a robustness test.

$$\begin{aligned} \text{SPREAD}_i = & \alpha_0 + \beta_1 * \text{GDPavg}_i + \beta_2 * \text{GDPgrowth}_i \\ & + \beta_3 * \text{CPIgrowth}_i + \beta_4 * \text{ROO7}_i + \beta_5 * \text{SIZE}_i \\ & + \beta_6 * \text{PERIOD}_i + \beta_7 * \text{TURNOVER}_i + \beta_8 \\ & * \text{LEVERAGE}_i + \beta_9 * \text{ROA}_i + \beta_{10} * \text{REVENUEZissuer}_i \\ & + \beta_{11} * d1 + \varepsilon_i \end{aligned}$$

$$\begin{aligned} \text{SPREAD}_i = & \alpha_0 + \beta_1 * \text{REVENUEgov}_i + \beta_2 * \text{GDPgrowth}_i \\ & + \beta_3 * \text{CPIgrowth}_i + \beta_4 * \text{ROO7}_i + \beta_5 * \text{SIZE}_i \\ & + \beta_6 * \text{PERIOD}_i + \beta_7 * \text{TURNOVER}_i + \beta_8 \\ & * \text{LEVERAGE}_i + \beta_9 * \text{ROA}_i + \beta_{10} * \text{REVENUEZissuer}_i \\ & + \beta_{11} * d1 + \varepsilon_i \end{aligned}$$

Table 3 reports the estimation results of the factors affecting the issuance spread of unsecured Quasi-Municipal bonds, in which model 1 joins per capita GDP, and model 2 adds public finance income. Both per capita GDP and public fiscal revenue have a significant negative effect on the Quasi-Municipal bonds spread, effectively reducing bond issuance spreads. As a proxy variable of the government's implicit guarantee level, they show that the government's implicit guarantee forecast is indeed an important factor affecting bond issuance spreads. The hypothesis H1 proposed above is verified. From the perspective of government implicit guarantee, the stronger the local government financial strength of the city investment company's region, it will bring implicit benefits to bond financing.

China's bond market is still in a rigid market environment. The market has the concept of "looking for government" [8]. Therefore, the implicit guarantee provided by the government indicates that the government has confidence in the capital investment platform in its jurisdiction and even communicates to the market that the government has the ability to cover the bottom, which can effectively reduce the issuance spread of the Quasi-Municipal bonds. However, the strength of such implicit guarantees is linked to the government's fiscal position, and the area with the best financial status will be recognized by investors. The government of the economically developed region can easily carry out pocket work in the event of a bond default. Otherwise, only the willingness to guarantee, but it does not have the ability to guarantee, can not impress investors in the bond market.

For macroeconomic factors such as GDP growth rate, CPI growth rate, and R007, combining the two estimation formulas of 1 and 2, we find that the GDP

Table 3. Empirical results.

	model (1)	model (2)
GDP avg	-0.0059016*** (-7.83)	
GDP growth	0.5406097*** (13.03)	0.5742945*** (13.92)
CPI growth	-0.0311049 (-0.85)	-0.039357 (-1.07)
R007	0.2834967*** (10.84)	0.2876116*** (10.94)
SIZE	-0.0192303*** (-5.59)	-0.0194835*** (-5.63)
PERIOD	-0.0974038*** (-6.73)	-0.1079719*** (-7.43)
TURNOVER	-0.0051541* (-1.82)	-0.0047366* (-1.66)
LEVERAGE	-0.0068411*** (-4.61)	-0.0071542*** (-4.79)
ROA	0.0034689 (0.27)	0.005119 (0.39)
REVENUE issuer	-0.0001252 (-1.20)	-0.0000559 (-0.53)
d1	-0.0891079** (-2.03)	-0.0921335** (-2.09)
REVENUE gov		-0.0001759*** (-6.89)
constant	-0.4090598 (-1.46)	-0.8147266*** (-2.96)
ADJ-R ²	0.4001	0.3932
Mean VIF	1.34	1.33
Max VIF	1.88	1.84

growth rate has a significant effect on the spread of Quasi-Municipal bonds, and the direction is positive. Taking into account the 4 trillion infrastructure investment after 2009 and the subsequent years of urbanization, this may be because the increase in GDP driven by infrastructure investment through debt has led to a high debt ratio of local governments, which has led to wide spreads in Quasi-Municipal bonds. These show that the growth rate of GDP is significantly positively correlated with the issuance spread of Quasi-Municipal bonds.

The CPI in the previous forecast is significantly negatively correlated with the bond's issuance spread. Considering that CPI is mainly affected by the two factors of economic growth and money supply. From the perspective of money supply, when the CPI rises, the funds in the bond market are relatively abundant, and the liquidity of capital is relatively high. The market prefers credit bonds with higher returns such as Quasi-Municipal bonds. As a result, the demand for Quasi-Municipal bonds has risen, the yield has been relatively lower, the national debt has been relatively cold, and the yield has risen relatively. The overall interest rate spread may narrow. However, in the actual regression, CPI is not significant in the model of unsecured Quasi-Municipal bonds. This shows that under the current market environment and institutional environment in China, the impact of CPI on the spreads of Quasi-Municipal bonds is still not sensitive enough, and it needs further discussion and exploration.

ROO7 is significantly positive for bond issuance spreads at a significant level of 1%. ROO7 is a measure of the looseness of inter-bank funding. The higher the ROO7, the tighter the reaction fund and the higher the cost of capital. So, investors are pursuing a higher return on investment. As a result, the coupon rate of bonds rises, and the spreads of bonds are widened. The empirical results are consistent.

With respect to the issuance size and issuance period of bond factors, through regression, we found that the bond size and the Quasi-Municipal bonds issuance spread is significantly negatively correlated at a 1% level of significance, but the coefficient is small, which indicates that the issuance size of bonds has an impact on the issuance spreads but the impact factor is small. This article mainly relies on Quasi-Municipal enterprise bonds. At present, the issuance scale of enterprise bonds is limited by 40% of net assets. The larger the issuance size, the larger the company's size. And the city investment company as a platform company, its size is often linked with the administrative status and administrative level behind it, so a larger-scale higher level or position of Quasi-Municipal bonds is more easily accepted by the market. The spread is also smaller. The regression results show that there is a significant negative correlation between the issuance period and the credit spreads. This is because the long-term Quasi-Municipal bonds are mostly issued by urban investment companies with relatively high credit ratings or administrative levels.

At the same time, we have seen that the total asset turnover rate of the city investment company is significant at the bond issuance spread at a significant level of 10%, and the regression coefficient reaches -0.52 . The total asset turnover rate comprehensively reflects the operating capacity of the company's overall assets. The higher the turnover rate, the stronger its operating capacity. It can reflect better efficiency in the use of funds and corporate management for most urban assets investment platforms that are heavy assets. From the demand point of view, this type of city investment company wins more investors' favor in the investment market and can effectively reduce the issuance spread of bonds, which

is in line with the empirical results.

In the regression results, the asset-liability ratio of the City Investment Corporation was significantly negatively correlated with the issuance spreads at a significant level of 1%, which seemed to violate our normal economic thinking logic. However, most of the special types of companies such as city investment companies use debt management methods, together with the tax advantages enjoyed by City Investment Corporation in a special position, so that the company's return on assets under the liability management strategy is still greater than the interest rate. Such companies use liabilities to expand their own operating scale, so from a large sample, a city-invested company with a high debt ratio does not mean that its operating conditions are not good. Most of the time, the opposite is true. As a result, the asset-liability ratio has significantly reduced the issuance spread of Quasi-Municipal bonds on the regression results.

ROA and the total operating revenue has no significant effect on the issuance spread of unsecured Quasi-Municipal bonds. Due to the specificity of the Chinese bond market, when City Investment Platform is issuing Quasi-Municipal bonds, the market may place more emphasis on the financial resources behind the government. Urban investment companies more often appear as a financing tool, leading to their own specific financial indicators do not significantly affect the credit spreads of Quasi-Municipal bonds.

For the dummy variables, the underwriter's reputation has a significant effect on bond spreads at a significant level of 10%. As an underwriter of a third-party intermediary agency, especially a good lead underwriter, they can receive more orders for bond issuance and can select and match relatively high-quality projects. This selection process can "identify", "revise" and "certify" the issuer's information disclosure quality, deliver bond risk information to market target investors, and reduce information asymmetry between buyers and sellers. High-quality underwriters' implicit "prestige guarantees" on bonds can significantly reduce bond issuance spreads, which is consistent with empirical results. In general, the underwriter's reputation mechanism is an informal system that attempts to influence the bond investor's decision making by using its good reputation, and use this signal to reduce the credit risk premium of investors on bonds. The hypothesis H2 proposed above is verified

4.2. Robustness Test

In order to further verify the robustness of the above regression results, this paper uses the method of variable substitution for robustness test. Specifically, we convert the total amount of public finance revenue, which represents the implicit guarantee level of the government, into individual-level indicators and return them again, so as to test the robustness of the model in this paper. The test results are shown in **Table 4**, which are basically consistent with the results in **Table 3**. The regression coefficients and significance of the explanatory variables are not significantly different, and the regression results are still robust.

Table 4. Robustness test results.

	model (1)	model (2)
GDP avg	-0.0059016*** (-7.83)	
GDP growth	0.5406097*** (13.03)	0.5390944*** (13.10)
CPI growth	-0.0311049 (-0.85)	-0.0319526 (-0.88)
R007	0.2834967*** (10.84)	0.2893361*** (11.14)
SIZE	-0.0192303*** (-5.59)	-0.0183011*** (-5.34)
PERIOD	-0.0974038*** (-6.73)	-0.0991213*** (-6.89)
TURNOVER	-0.0051541* (-1.82)	-0.0043129 (-1.53)
LEVERAGE	-0.0068411*** (-4.61)	-0.0057734*** (-3.85)
ROA	0.0034689 (0.27)	0.0020191 (0.16)
REVENUE issuer	-0.0001252 (-1.20)	-0.0000775 (-0.75)
d1	-0.0891079** (-2.03)	-0.0783167* (-1.79)
REVENUE gov		-0.0048257*** (-8.65)
constant	-0.4090598 (-1.46)	-0.5383615* (-1.95)
<i>ADJ-R²</i>	0.4001	0.4064
<i>Mean VIF</i>	1.34	1.35
<i>Max VIF</i>	1.88	1.87

5. Conclusions

Based on the Quasi-Municipal bonds data of 2009-2017, this article conducts a systematic and comprehensive study on the implicit guarantee of unsecured Quasi-Municipal bonds, and draws the following conclusions: First, the financial situation of local governments can significantly reduce the issuing spread of Quasi-Municipal bonds, indicating the existence of government implicit guarantees in the bond market. Second, the urban investment company's factors often have

no significant impact on the issuing spread, reflecting its market position is mainly the role of “financing tools” not a traditional enterprise. Third, outstanding underwriters can significantly reduce the issuing spread of Quasi-Municipal bond, which verifies the existence of reputation mechanism in the bond market.

Based on the results of this study, we propose some suggestions on how to sort out government implicit guarantees and reduce information asymmetry in the bond market.

First, the city investment company should establish a more market-oriented operating mechanism.

In the empirical study, the spread of Quasi-Municipal bonds is affected by the financial conditions of local governments. It is true that local governments rely on urban investment companies for financing. On the other hand, urban investment companies need government policy support and implicit guarantees as endorsements. In the actual local financing platform operating system, they are tightly tied together. Under the background of the frequent occurrence of bond default events, a large-scale cascading effect is most likely to occur. This is also one of the reasons why our country continued to perform debt replacement work so far in 2015. Therefore, through the construction of the system, the independence and transparency of the local financing platform will be enhanced, and the impact of its profitability on debt-servicing and repayment will be strengthened, and the dependence on government financial subsidies will be reduced.

Second, the government should focus on its own credit status.

Under the background of steady progress in market-oriented issuance, local governments should improve their own level and quality of information disclosure, improve the degree of transparency of local government debt, reasonably use debt, and improve the government’s credit status. Since the “Measures” was announced in 2014, the debt replacement work has gradually revealed the implicit government guarantees behind the Quasi-Municipal bonds, fully revealing the underlying risks of Quasi-Municipal bonds and reducing the losses caused by underestimation of risks. After that, local governments should gradually cut the relationship with the city investment company, and gradually turn to the pilot work of local governments to issue their own bonds, to provide more standardized channels for local government financing.

Third, establish an underwriter reputation evaluation system to reduce market information asymmetry.

Empirical research shows that the underwriter’s reputation mechanism can effectively reduce the issuance spread of bonds and reduce the information asymmetry between investors and issuers. Therefore, it is proposed to speed up the establishment of an underwriting reputation rating system, which will impose higher requirements on underwriters’ information disclosure in the bond issuance process, promptly disclose the underwriter’s violations and default of

the underwriting bonds, and increase the cost of the underwriter's liar. These are conducive to the value discovery of the bond market and strengthen the game effect of investors, issuers, and underwriters, and can effectively play the role of the market.

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