

Managing Debt Risk Accumulation: Empirical Study on the Debt Consequences of Local Government Guarantee From China

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Abstract

Purpose: This paper aims to examine debt accumulation between enterprises and debt repayment of local government which is linked with local government guarantee that acts as a debt transferring mechanism. The purpose is to illustrate that it is essential to pursue a sustainable fiscal policy of local governments so that decrease debt dependence during the processes of promoting economic growth.

Design/methodology/approach: The channel of how the partial debts of non-financial enterprise to be transferred into the debt repayment of local governments is explicated by the theory of soft budget constraint and the mechanism of debt transferring - local government guarantee. The feasible generalized least squares regression model is used to test the hypotheses. The sample data include debts of non-financial industries, bad loans of commercial banks and debt repayment of local governments in nineteen provinces that are published from the official database of national Ministries over the period from 2007 to 2016.

Findings: The results demonstrated that there is a positive relationship between enterprise debts and the debt repayment of local governments. In addition, there

is symbiotic phenomenon between corporate debts and debt repayment of local government, that is, the current patterns of industrial investment and financing of local governments may cause production overcapacity and enterprise debt accumulation on the one hand, and shift enterprise debt and bad loans to the debt repayment of local governments through the debt transferring mechanism on the other.

Originality/value: This research verifies the positive relationship between enterprise's bad loans of bank and the debt repayment of local governments through introducing debt risk transferring mechanism, and thus provides empirical evidence for central government to prohibit the debt guaranteed of local governments and to enforce hard budget constraints.

Key words: Managing debt risks; Enterprise debts; Debt repayment of local governments; Local government guarantee

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INTRODUCTION

Debt default and serious debt risk are the fundamental sources of the contemporary financial crisis (Wang et al., 2016). As the biggest developing country in the world, governments play a dominant role in enhancing economic growth and promoting market economy in China (Xi et al., 2017). Nevertheless, after a period of rapid economic growth, the unsustainability of corporate debts and local government debts is emerging. The potential debt risk of Chinese enterprises has attracted wide attention both in academic circle and policy makers at home and abroad

(IMF, 2016; Grewal, 2015; Liang, 2017). The ratio of total debt to GDP reached 249%, in which corporate debt accounted for 163% in the year 2015(BIS, 2015). The increase of enterprise debts may push up bank's bad loans because Chinese corporates mainly rely on financing from banks. The ratio of credit to GDP of non-financial enterprise has gone up from 150% to more than 200%, which has exceeded 20% to 25% of the historical average level (Daniel, 2017). The losses of Banking in enterprise loans account for at least 7% of GDP (Lipton, 2016). It implies that the bad loan of bank stemming from corporate debt will be increased with raising enterprise's debts in the medium and long term (Daniel, 2017). The exorbitant debts of corporates have become a core issue in China (Thompson, 2007). Moreover, local government debts have risen to more than RMB¥1.6 trillion yuan for six consecutive months since January 2018 because of rising of the implicit debt and the debt repayment (Commissioner Office of Hunan, 2017). It increases the possibility of uncertainly triggering contingent debt risk of local governments (Xu, 2018).

Facing increasing debts, the majority of the studies have focused on various factors of impacting debts on corporates and local governments as well, including distorted incentive mechanism based on GDP performance appraisal along for local officials, fiscal decentralization between central and local governments and mismatching the authorization between financial and administrative for both sides, and lacking standardized local financing platform (Zhong & Yong 2015; Han et al., 2017). Many researches proposed strategies to deal with debt risks of enterprise, bank and local government separately, such as convert enterprise debt and bank's bad loan into equity and sell them in the financial markets, and borrow new debts to return the old ones for local governments (Wu, 2018; Cao & Guo, 2017).

Meanwhile, few literature have touched upon the impact of local government guarantee on debt connection between corporates and local governments. Some studies describe government guarantees but concentrate on different dimensions. Peng (2017) illustrates the indicators of implicit government guarantee. Xu (2016) discusses the relationship between government guarantees and soft budget constraints for state-owned enterprises. Zhu (2016) concludes that different ownership industrial sectors are explicitly or implicitly financed by government guarantees but lacks empirical examination. Wang et al. (2016) analyze the debt default risk of local government due to the implicit guarantee of local governments for the urban infrastructure investment bonds.

The above studies provide valuable analysis about the roles and types of government guarantee but there are insufficient on the debt accumulation between corporates and local government that is related to local government guarantee.

1. OBJECTIVES

The purpose of this paper is to illustrate that partial enterprises debt has been transferred into local governments, particularly, to debt repayment of local government (DRLG) rather than completely to be sold in the financial markets through the strategy of debt-for-equity swaps. The channel of debt transfer is related to local government guarantee that actually acts as a debt transferring mechanism and leads to local fiscal risks more hidden, complex and rapidly deformed (China Academy of Financial Sciences, 2017).

To examine whether there is the debt correlation between enterprise and local government, we use the feasible generalized least squares (FGLS) model to test hypotheses with data of 19 provinces from 2007 to 2016 in China. The empirical results confirm that there is a statistically significant and positive relationship between enterprises and local government debts because corporate debts are guaranteed or payed by local governments. If the issue of local government's fiscal policy is not addressed, deflating the debt bubble would bring only temporary effect (Daniel, 2017). Thus, this study provides an empirical evidence for central government to take necessary strategy to pursuing sustainable fiscal policy through prohibiting local government guarantee.

2. THE THEORETICAL REVIEW AND HYPOTHESES

2.1 The Concept and Characteristics of Local Government Guarantee

local government guarantee is one of important fiscal policy instruments of local government which was widely promoted after the recent global financial crisis. Simply, to reduce the negative impact of global financial crisis on Chinese economy, central government launched the RMB¥4 trillion fiscal expenditure package for the purpose of stabilizing economic growth. However, more than half of the expenditure needed to rely on local government budgets (Chen & Zhao, 2009). Local governments have no authority to impose taxes without national legal permission, and thus local government guarantee to become an essential fiscal policy instruments in order to keeping local economic constant.

The definition of local government guarantee, based on the studies of Ma & Ma (2018, p.73) and the Commissioner Office of Hunan (2017, p.5), means the committed mechanism of compensating for debt of enterprises that participate in government industrial investment projects through coordinating bank and social capital in order to make up for the local fiscal deficit during the process of promoting local economy by local governments.

Local government guarantee is characterized by the secured debt that is recognized as performing joint

repayment for the warrantees of insolvency (enterprises or banks) based on the law in the name of the government directly or indirectly (MFC, 2014).

The roles of government guarantees are double both at central and local government levels, that is, may promote economic growth but could cause local government to step into debt trap (Ma & Ma, 2018). Because once enterprise debts and their bad loans are paid or secured by the local government, those debts will be transferred from bank to the debt repayment of local government (DRLG) according to the legal agreement between banks and local governments. Thus, local government guarantee, in fact, acts as a debt transfer mechanism that shifts enterprise debts or their bad loan from banks to the DRLG.

2.2 The Theoretical Review and Hypotheses

The soft budget constraint theory and some studies describe the relationship between corporate debt and the DRLG. First, the Soft budget constraint theory is usually used to explain moral hazard and inefficiency due to government assistance. Basically, the soft budget constraint implies that government provides deficit enterprises and organizations with financial subsidies, tax cuts and loans in order to achieve economic goals or maintain social stability and political support (Kornai, 1986; Shleifer & Vishny, 1994). Before and after the current global financial crisis, soft budget constraint have become a common phenomenon in many countries (Zettelmeyer et al., 2017).

Second, the phenomenon of soft budget constraint is reflected by the process of promoting economic growth. Local governments are the drive force to promote local economic growth through encouraging investment and providing financial support directly or indirectly to enterprises that are engaged in government industrial projects (Yang & Li, 2013). Lin et al. (2004) investigate that there are soft budget constraint both in state-owned and non-state-owned enterprises. For example, the deficit enterprises that are engaged in government investment projects will be given policy subsidies and preferential treatment by local governments.

Recently, under the circumstances of overcapacity and economic downturn, the solvency of enterprises has further declined, the debt ratio of state-owned and non-state-owned enterprises has climbed (Lu & Han, 2015). To pay for the loss of the above enterprise, the burden of debt repayment of local government has become more heavy. According to the above review of literature, the hypothesis 1 is put forward:

- (a) H1: There is a significant positive correlation between the increase of enterprise debt and the raise of debt repayment of local government.

Third, the impact of soft budget constraint is also shown by the connection among enterprise debts, bad loan of banks and local government guarantee. With gradually shifting the responsibility of financial support for the state-

owned enterprises from central government to the state-owned banks, the central government almost no longer provides any financial subsidies to the enterprises but rather delays repaying debts or adds new loans to deficit enterprises by commercial banks when profits of state-owned enterprises decline for whatever reasons (Lin et al., 2004). Meanwhile, local governments encourage banks to finance enterprises of undertaking government investment projects through policy loans. Particularly, state-owned enterprises are more easily to obtain the secured loans from banks due to the state-owned relationship with local governments (Wang & Yang, 2017). It leads to increasing bad loans of banks. The rise of bank's bad loans is correspondingly with increasing debts of state-owned enterprise (Fan, 1999).

However, to reduce the risk of paying for the loss of debtor's default, banks require the local government to undertake the responsibility to pay off the debt of the insolvent debtors in accordance with legal contracts or related agreements between bank and local governments (Luo & Liu, 2016).

Therefore, banks would transfer the bad loans that stem from enterprise debts to the local government (Liao & Liu, 2005) based on the contract between both sides. In this case, local government guarantee actually works as a debt transferring mechanism through shifting debts from enterprise or banks to the DRLG because of its fiscal guarantee for corporate debts and relative bad loans of bank. Therefore, we propose hypothesis 2:

- (b) H2: Enterprise debts and their bad loans of banks are positively related to the DRLG.

3. DATA AND METHODOLOGY

3.1 Data Sources and Variable Description

We collect annual and provincial panel data of debt repayment of local government(DRLG), total debt of non-financial enterprises (TDE), bad loans of commercial bank (BLCB), average gross domestic product (i.e., GDP per capita) and investment effectiveness of the real estate enterprises (EIER) in nineteen major provinces of China from 2007 to 2016.

Data on debt repayment of local government (measure in billion yuan of RMB) as the dependent variable were obtained from the published official database: the National Bureau of Statistics of the people's republic of China (PRC) and the Ministry of Finance of the PRC. The DRLG refers to paying for interest of national debt, local government bonds, financing platform loans and foreign debt from local government revenue in current year. It reflects the substantial pressure of debt payment of local governments. Thus, it is a more effective measure to check the debt payment ability of provincial governments.

The total debt of non-financial enterprises as the independent variable, including enterprise debts of state-

owned, private-owned, foreign-owned and the real estate (measure in billion yuan of RMB), was collected from the National Bureau of Statistics of the PRC and National Audit Office of the PRC. The total debt of enterprise is derived by adding up the group of enterprise debts together in which including enterprise debts of state-owned (DSOE), private-owned (DPE), foreign-owned (DFE) and the real estate (DRE). To reduce multicollinearity, we categorize enterprises based on their ownership rather than on industrial sectors, and choice the service sector, the real estate enterprise, as one of independent variables according to its important impact on the DRLG.

The bad loans of commercial bank (measure in billion yuan of RMB) as the moderating variable were taken from the official database: the National Audit Office of the PRC, China Bank Regulatory Commission and Provincial Bureau of Statistics in China.

Data on average gross domestic product (measure in billion yuan of RMB) and the investment effectiveness of the real estate enterprises (measure in Percentage) as the control variables were gotten from Statistical Yearbook published by National Bureau of Statistics of the PCR. The GDP per capita for nineteen provinces is calculated by using real GDP divided by their population. The EIER is computed by using the value added of real estate divided by fixed assets investment in real estate sector (Jao, 1997).

The banks mentioned in this study are all commercial banks. The non-financial enterprises and other provinces with insufficient data were excluded from the sample.

All of data and variables are measured by the natural logarithm. We analyzed data by STATA 15.0.

Table 1 shows the descriptive statistics on the variables employed in the research.

Table 1
Descriptive Statistics to Study Variables (2007-2016)

| Variable | Mean | SD | Minimum | Median | Maximum |
|-------------------------|--------|-------|---------|--------|---------|
| Ln(DRLG) (RMB billions) | 4.364 | 0.055 | 0.604 | 4.443 | 6.282 |
| Ln(TDE) (RMB billions) | 9.643 | 0.065 | 6.623 | 9.697 | 11.548 |
| Ln(DSOE) (RMB billions) | 8.567 | 0.062 | 5.252 | 8.713 | 9.843 |
| Ln(DPE) (RMB billions) | 7.488 | 0.100 | 3.251 | 7.660 | 9.823 |
| Ln(DFE) (RMB billions) | 7.399 | 0.097 | 4.103 | 7.259 | 9.993 |
| Ln(DRE) (RMB billions) | 8.569 | 0.084 | 5.694 | 8.625 | 10.972 |
| Ln(AGDP) (%) | 1.255 | 0.040 | 0.056 | 1.249 | 2.659 |
| Ln(IERE) (RMB billions) | -1.106 | 0.039 | -2.893 | -1.100 | -0.181 |

According to Table 1, the average debts of state-owned enterprise (DSOE) is higher than debts of private enterprise (DPE) and foreign-owned enterprise (DFE) in industrial sectors because the mean (8.567), median (8.713) and minimum (5.252) of DSOE were higher than those enterprises. The debt of the real estate enterprise is higher than the DSOE. However, the investment effectiveness of real estate enterprises is low according to the mean (-1.106).

3.2 Study Model

This research applies the feasible generalized least squares (FGLS) regression model to test hypotheses so that deal with heteroskedasticity and autocorrelation. Model (1) is to examine the debt connection between enterprise debts and debt repayment of local government and to test H1.

$$\text{Ln}(DRLG_{it}) = \alpha_0 + \beta_1 \text{Ln}(TD_{it}) + \beta_2 \text{Ln}(AGDP_{it}) + \beta_3 \text{Ln}(EIER_{it}) + \varepsilon_{it} \quad (1)$$

Where Ln stands for the natural logarithm, subscript *i* and *t* represent province and time separately, DRLG_{it} represents the debt repayment of government for province *i*th at time *t*; TDE_{it} symbolizes the total debt of non-financial enterprise in province *i*th at time *t*, in which includes enterprise debts of state-owned (DSOE),

private-owned (DPE), foreign-owned (DFE) and the real estate (DRE), respectively, GDP per capita (AGDP) and investment effectiveness of the real estate enterprises (EIER) are control variables, and ε is the error term.

In addition, the relationship between enterprise debts and the DRPG may be affected by the bad loans of bank that are associated with local government guarantee which transfers enterprise's bad loans from banks to the DRLG according to the legal agreement between banks and local governments. To investigate the impact of bad loan of bank on the relationship between enterprise debts and the DRPG, the interaction term (TDE×BLCB) is introduced in Model (2), in which includes the group of interaction terms (DSOE×BLCB, DPE×BLCB, DFE×BLCB and DRE×BLCB).

$$\text{Ln}(DRLG_{it}) = \alpha_0 + \beta_1 \text{Ln}(TD_{it}) + \beta_2 \text{Ln}(TD_{it}) \times \text{Ln}(BD_{it}) + \beta_3 \text{Ln}(AGDP_{it}) + \beta_4 \text{Ln}(EIER_{it}) + \varepsilon_{it} \quad (2)$$

Where DRLG_{it} is the debt repayment of government for province *i*th at time *t*; TDE_{it} is the total debt of enterprise in province *i*th at time *t*, including DSOE, DPE, DFE and DRE; BLCB_{it} represents the moderating variable bad loan of commercial banks for province *i*th at time *t*; AGDP and EIER are control variables, and ε is the error term.

4. RESULTS

In this section, we present the test results based on the FGLS model for the correlation between enterprise debts and the DRLG outlined by model (1) in Table 2, and the joint influence of the enterprise debts and their bad loans of banks on DRLG outlined by model (2) in Table 3, respectively.

Table 2
Regression Results for the Correlation Between Enterprise Debts and the DRLG

| Variables | (1) | (2) | (3) | (4) | (5) |
|-----------------------|----------------------|---------------------|---------------------|----------------------|----------------------|
| Constant | -1.309*** (-4.15) | 1.890*** (8.29) | 2.293*** (17.10) | 0.481* (2.56) | -1.176*** (-3.39) |
| InAGDP | -0.102 (-0.56) | 0.740*** (11.67) | 0.299*** (5.66) | -0.907*** (-6.00) | -0.614*** (-7.32) |
| InIERE | 0.210** (3.06) | 0.277*** (5.66) | 0.165*** (5.22) | -0.110 (-1.36) | 0.320*** (3.68) |
| InTDE | 0.635*** (15.37) | | | | |
| InDSOE | | 0.246*** (7.44) | | | |
| InDPE | | | 0.264*** (13.33) | | |
| InDFE | | | | 0.602*** (18.41) | |
| InDRE | | | | | 0.791*** (16.52) |
| Observations | 198 | 197 | 197 | 198 | 178 |
| Wald chi2 | 1803.50 | 1416.11 | 2768.17 | 3256.26 | 955.01 |
| Prob(chi2-statistic) | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

Note: Values in brackets express t-statistic.

***, ** and * indicate that the coefficient is significant at the levels 1%, 5% and 10%, respectively.

The coefficients of the enterprises within the group are positive and statistically significant at 0.001 level. The coefficient of DSOE is 0.246, and statistically significant at 0.001% level. It means that, with other variables holding constant, a 1% increasing in the debts of state-owned enterprise will lead to a 0.246% increase in the DRLG. Compared to the firms of private-owned and foreign-owned, a 1% increasing in the DPE and DFE will

4.1 The Test Results of the FGLS Model

Table 2 provides the regression results of the correlation between enterprise debts and the DRLG. The significant correlations between the total debt of enterprise and DRPG is demonstrated (coefficient=0.635; $p < 0.001$). It means that a 1% increasing in total debt of enterprise may push up 0.635% of the DRLG in general.

lead to a 0.264% and a 0.602% increase in the DRPG, respectively. Obviously, the coefficient of the DRE is significant and positive to the DRLG (coefficient=0.791; $p < 0.001$). Therefore, H1 is confirmed.

Table 3 shows the results of the regression analysis to the joint influence of the enterprise debts and their bad loans of banks on DRLG.

Table 3
Regression Results for Interacting Effects

| Variables | (1) | (2) | (3) | (4) | (5) |
|-------------------|----------------------|--------------------|---------------------|-----------------------|----------------------|
| Constant | -1.309*** (-4.15) | 1.354*** (4.69) | 2.531*** (19.17) | 0.508*** (6.41) | -1.079* (-2.39) |
| Control variables | | | | | |
| InAGDP | 0.261** (3.06) | 0.631*** (5.67) | 0.167*** (5.93) | -0.280*** (-5.28) | -0.593*** (-4.69) |
| InIERE | 0.029 (0.41) | 0.030 (0.42) | 0.129*** (5.43) | -0.321*** (-17.79) | 0.303** (3.08) |

To be continued

Continued

| Variables | (1) | (2) | (3) | (4) | (5) |
|----------------------|---------------------|--------------------|--------------------|--------------------|-------------------|
| Moderating variable | | | | | |
| InBLCB | 0.113** (2.80) | 0.154*** (4.09) | 0.151*** (3.59) | 0.073* (2.56) | 0.110** (2.81) |
| Interaction effect | | | | | |
| InTDE×InBLCB | 0.248*** (15.76) | | | | |
| InDSOE×InBLCB | | 0.214*** (6.22) | | | |
| InDPE×InBLCB | | | 0.093*** (4.79) | | |
| InDFE×InBLCB | | | | 0.086*** (4.93) | |
| InDRE×InBLCB | | | | | 0.085* (2.11) |
| Observations | 197 | 197 | 196 | 198 | 177 |
| Wald chi2 | 2883.76 | 1520.54 | 699.95 | 2778.53 | 234.54 |
| Prob(chi2-statistic) | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

Note. Values in brackets express t-statistic.

***, ** and * indicate that the coefficient is significant at the levels 1%, 5% and 10%, respectively.

Based on Table 3, the joint influence of the enterprise debts and their bad loans of banks on DRLG indicates statistically significant and positive relationship. The coefficient estimate of TDE×BLCB is positive and statistically significant at 0.001 level (coefficient=0.248, $p<0.001$). It means that a RMB¥100 million yuan increasing in the total debt of industrial enterprises and their bad loans of bank will raise 25% of the DRLG.

Within the group, the regress results are also significant and positive to the DRLG. The coefficient estimate of DSOE×BLCB (coefficient=0.214, $p<0.001$), DPE×BLCB (coefficient=0.093, $p<0.001$) and DFE×BLCB (coefficient=0.086, $p<0.001$) are positive and statistically significant at 0.001 level separately. Those results show that a RMB¥100 million yuan increasing and their bad loans of bank in the DSOE, DPE and DFE will add 21%, 0.093% and 0.086% of the DRLG, respectively. The coefficient of DRE×BLCB (coefficient=0.085, $p<0.05$) is positive and statistically significant at 0.05% level. Therefore, H2 is supported.

5. DISCUSSION

The empirical studies in this research confirm our findings. For example, there is a positive relationship between enterprise debts and the DRLG. Moreover, enterprise's bad loans of banks are transferred to the DRLG due to the debt transfer mechanism-local governments guarantee. It is demonstrated by the significant and positive interaction effects between enterprise debts and their bad loans of bank on the DRLG. In addition, the problem of local governments guarantee lies in pushing up accumulating debts of both enterprise and local governments, and incurs the DRLG to be more hidden and complicated (Commissioner Office of Hunan, 2017).

5.1 Implications

The study verifies the problem of local government guarantee that increases debt risk accumulation between enterprises and local governments, and local government guarantee acts as a debt risk transferring mechanism which transfers enterprise's bad loans of bank to the DRLG. Thus, the empirical results of this paper support central government to prohibit local government guarantee and to promote hard budget constraint that are favor of curbing corporate debts and bad loans to be transferred from banks to the DRLG and reversing the expectations of enterprises and local governments on soft budget constraints of central government.

Furthermore, based on previous studies and research of this paper, we also find that local government guarantee is working together with the investment pattern and causes the debt symbiotic phenomenon between corporate and the DRLG. On the one hand, the investment pattern of local governments excessively incited and financed enterprises to invest strategical industrial sectors that were supported by central government's industry policy but ignored encouraging firms to invest according to market demands. This investment pattern would inevitably lead to overcapacity accompanied by investment inefficiency, accumulating enterprise debts and increasing bad loan of banks. On the other hand, enterprise debts and their bad loans would be shifted from banks to the DRLG through the debt transferring mechanism. The impact of debt risk accumulation and repeating cycle between corporates and local governments on economic growth has led to Chinese economic going down turn.

To avoid debt repeating cycle between enterprises and governments, we further suggest that may combine forbidding local government guarantee with improving

investment pattern through establishing the government-led framework of joint policy-making including the technical expertise of professionals of enterprises, banks and consumers for investing judgment (Lipton, 2016), setting standards and evaluation mechanism for sectors to enter national strategic industries and guiding the sectors without involving in government strategic projects to invest according to market demands. The purpose is to reduce overinvestment and subsequent overcapacity in target sectors. Meanwhile, it is also important to reform financial pattern of local governments through restricting inefficient enterprises to be financed from banks (Zhong, 2016) and promoting multi-level capital markets for expanding the proportion of direct financing of enterprises.

In addition, the majority of previous literature focused on dealing with debt risks of enterprise, bank and local government separately rather than on the debt transferring chain among them. Few research explored the debt correlation between enterprises and government, but were neither providing empirical analysis nor distinguishing the role of local government guarantee as a debt transferring mechanism. This research supplements the inadequacy of the existing literature. Moreover, some studies of other countries conclude that China experience is characterized by government-led and investment-led growth as the fastest growing country in the world (Sahoo et al., 2010; Lee & Plummer, 2004). This study proposes the suggestion for macroeconomic policy makers to better understand that keeping fiscal policy sustainability is the first prerequisite to maintain the sustainability of debt and economic growth. Otherwise, the speed of economic growth has to be slowed down because of reducing the unsustainable debts both in enterprises and local governments.

5.2 Limitation and Directions for Future Research

The limitations of this article include that lack analyses in the reasons of local government guarantee which is relative to the imperfect structure of government revenues and outlays at different government levels (Mendoza & Oviedo, 2006), and only test the results of enterprise's bad loans of banks to be guaranteed by local governments without taking into account for other implicit government guaranteed types of enterprise debts (e.g., urban infrastructure investment bonds). Furthermore, we merely concentrate on examining the positive relationship between enterprise debts and the DRLG but lack empirical test for the impact of investment and financing patterns of local governments on corporate debts, and obtains relative conclusion according to previous literature. Further research may be engaged in exploring the possible ways to promoting sustainable fiscal policy and investment pattern of local governments.

In conclusion, the goal of fiscal policy should focus on reducing the public debt risks as a whole, instead of

accumulating or stimulating debt risks when promotes local economic development (Chinese Academy of Financial Sciences, 2018). The phenomenon of debt accumulation between enterprises and local governments is only a superficial result. The substantive issue lies in mixing financing and investment together and paying for ineffective investment by local government guarantee (Commissioner Office of Hunan, 2017). The consequences are associated with soaring government debt trap due to increasing transferred debts from enterprises and banks, and leading to unsustainable debt of local governments. Ma & Ma (2018) document that the debt risk of local government may not be controlled if the financial support from central government is less than around 30%.

The policy implications based on findings of this article could have broader significance for improving the fiscal policy efficiency of local governments in China, and provide empirical results about the importance of promoting sustainable fiscal policy during the processes to pursue rapidly economic growth.

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NOTE

The provinces selected in the sample data include: Hebei, Henan, Hubei, Hunan, Guangdong, Jiangsu, Jiangxi, Sanxi, Shanxi, Shandong, Zhejiang, Sichuan, Hainan, Yunnan, Gansu, Anhui, Fujian, Jilin and Liaoning.

REFERENCES

- BIS. (2015). *Total credit to non-financial corporations (core debt), % of GDP*. BIS Statistics-Table F4.1. Bank for International Settlements.
- Cao, C. Y., & Guo, C. (2017). Prerequisites and promotion strategies for the operation of debt to equity swap. *Social Sciences in Yunnan*, (3), 46-57.
- Chang, Z. C., & Liu, C. C. (2017). Soft budget constraint, balance sheet vulnerability and debt crisis. *Finance and Trade Research*, (1), 58-66.
- Chen, H., & Zhao, J. Y. (2009). The funding sources of four trillion Yuan fiscal stimulation plan, Investment and System Construction. *Local Finance Research*, (4), 55-63.
- Chinese Academy of Financial Sciences. (2018). *Watching out for risk distortion and enhancing the ability to manage debt risks*. Financial Research, (3), 2-13.

- Commissioner Office of Hunan. (2017). *Rethinking on preventing financial risks by commissioner office of Hunan*. Available online: <http://www.mof.gov.cn/zhengwuxinxi/caizhengxinwen> (accessed on 19 July 2018).
- Daniel, J. (2017). Resolving China's corporate debt problem. *International Economic Review*, (39), 174-189.
- Fan, G. (1999). On national comprehensive debt - how to deal with bad assets of banks. *Economic Research Journal*, (5), 4-18.
- Grewal, B., Cheng, E., & Bruce, R. (2015). Local government debt in China: Implications for reform. *Public Financial Management*, (4), 358-377.
- Han, Y. H., Huang, L. X., & Wang, X. B. (2017). Do industrial policies promote industrial structure upgrading? Theory and evidence from China's development-oriented local government. *Economic Research Journal*, (8), 34-48.
- IMF. (2016). *Debt risk growing from big firms in China*. International Monetary Fund Warns.
- Jiao, L. Q. (1997). Calculation of dynamic investment effect coefficient, quantitative economics. *Quantitative Economics and Technical Economic Research*, (1), 46-69.
- Kornai, J. (1986). The soft budget constraint. *Kyols*, (1), 3-30.
- Kornai, J., Maskin, D., & Roland, G. (2003). Understanding the soft budget constraint. *Journal of Economic Literature*, (6), 1095-1136.
- Lee, C. H., & Plummer, M. G. (2004). *Economic development in China and its implications for East Asia*. EAEA working paper. 9th Convention of the East Asian Economic Association 13-14 November 2004. University of Hawaii at Manoa: Manoa, USA.
- Li, N. S., Gang, X. Y., & Zheng, J. (2013). The risk assessment of local government debt in China. *Statistical Research*, (10), 30-39.
- Li, Z. F., Tang, X. D., & Nian, Y. J. (2016). The deviation mystery of the social responsibility of the private enterprises in China. *Management World*, (9), 136-60.
- Liang, Y., Shi, K., Wang, L., & Xu, J. (2017). Local government debt and firm leverage: Evidence from China. *Asian Economic Policy Review*, (2), 233-234.
- Liao, G. M., & Liu, W. (2005). Banking system, bankruptcy cost and government guarantee - an analytical framework for the formation of non-performing assets in state-owned banks. *Management World*, (3), 68-83.
- Lin, Y. F., Cai, F., & Zhou, L. (1997). *Full information and the reform of state - owned enterprises*. Shanghai People Press. Shanghai, China.
- Lin, Y. F., Liu, M. X., & Zhang, Q. (2004). Policy burden and soft budget constraints of enterprises: an empirical study from China. *Management World*, (8), 81-89.
- Lin, Y. F., Wu, H. M., & Xing, Y. Q. (2010). Tide phenomenon and the formation mechanism of overcapacity. *Economic Research Journal*, (10), 4-19.
- Lipton, D. (2016). *Rebalancing China: International Lessons in Corporate Debt*. IMF Global Financial Stability Report, Washington D.C., USA.
- Lu, Z. F., & Han, F. C. (2015). How does macroeconomic policy affect the economic effect of corporate cash holdings? - Based on the dual perspective of product market and capital market. *Management World*, (6), 43-60.
- Luo, D. L., & Dang, Q. Q. (2007). Research on government control, relationship between bank and enterprise and corporate guarantee behavior - Empirical Evidence from Chinese Listed Companies. *Journal of Financial Research*, (3), 57-69.
- Luo, R. H., & Liu, J. J. (2016). Is the Implicit Guarantee of the Local Government Really Effective?- Based on the Examination of the Issuing Pricing of Urban infrastructure Investment Bond. *Financial Research*, (4), 83-98.
- Ma, W. T., & Ma, C. Y. (2018). The intervention of government guarantee, the restriction of steady growth and the expansion trap of local government debt. *Economic Research Journal*, (5), 72-87.
- Mendoza, E. G., & Oviedo, P. M. (2006). *Fiscal Policy and Macroeconomic Uncertainty in Developing Countries: the Tale of the Tormented Insurer*. NBER working paper 12586. National Bureau of Economic Research: Washington D.C., USA.
- MFC. (2014). *The measures of local government debt budget*. *Fiscal 2016 No.154*. Ministry of Finance in China.
- Nelson, W. (2013). *Lessons from lender of last resort actions during the crisis: the Federal Reserve experience*. BIS papers, (79), 76-80.
- Peng, W. S. (2017). *Progressive financial cycle*. Beijing: CITIC Press.
- Robinson, J. A., Torvik, R., & Verdier, T. (2006). Political foundations of the resource curse. *Journal of Development Economics*, (5), 447-462.
- Sahoo, P., Dash, R. K., & Nataraj, G. (2010). *Infrastructure Development and Economic Growth in China*. IDE Discussion Paper 261/2010, Institute of Developing Economies: Chiba, Japan.
- Shleifer, A., & Vishny, R. W. (1994). Politicians and Firms. *Quarterly Journal of Economics*, (4), 995-1025.
- Thompson, J. R. (2007). *Credit risk transfer: To sell or to insure*. Queen's Economics Department Working Paper, (1131), 6-31.
- Wang, G. G. (2018). Characteristics, difficulties and operational options of market-based debt to equity swap. *Journal of Financial Research*, (2), 1-14.
- Wang, S. P., & Yang, Y. (2017). The long-term trend of economic growth and quantitative characteristics of the economic "New Normal" in China. *Economic Research Journal*, (6), 46-59.
- Wang, Y. Q., Chen, Y. H. & Du, J. L. (2016). Soft budget constraint and the default risk of Chinese local government debts: evidence from the financial markets. *Economic Research Journal*, (11), 96-109.
- Wu, L. J. (2018). Promoting the marketization of debt to equity swap. *Chinese Finance*, (8), 29-39.
- Xi, P. H., Liang, R. B., Xie, Z. F., & Su, G. C. (2017). Fiscal stress, excess capacity and supply-side reform. *Economic Research Journal*, (9), 87-102.

- Xu, Y. C. (2018). Structural risk of local government debt in China. *Statistical Research*, (2), 27-41.
- Yang S. R., & Li, S. P. (2013). Decision on local government Debt: An institutional interpretation framework, *Economic System Reform*. (3), 57-69.
- Yang, D. P., & Yang, L. H. (2016). Foreign trade, technological progress and upgrading of industrial structure: Experience, mechanism and empirical evidence. *Management World*, (11), 172-173.
- Zettelmeyer, J., Kreplin, E., & Panizza, U. (2017). *Does greece need more official debt relief? If so, how much?* PIIE Working paper.
- Zhong, N. Y., Liu, Z. K., He, J. X., & Su, C. L. (2016). The structural problems of corporate debt in China. *Economic Research Journal*, (7), 27-41.
- Zhu, N. (2016). *Rigid bubble*. Beijing, CITIC Press.