

Research on the Supply Chain Transmission Mechanism of Local Public Debt and Commercial Credit

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Abstract

Following the 2008 global financial crisis, local governments in China massively borrowed through financing platforms to cope with downward economic pressure, leading to a rapid expansion of local public debt and the gradual emergence of hidden debt risks. Commercial credit, as a short-term financing model based on transaction trust within the supply chain, is a crucial support for alleviating corporate financing constraints and maintaining supply chain stability. The expansion of local public debt alters the allocation pattern of funds in the financial market through a credit crowding-out effect, thereby affecting the transmission efficiency of commercial credit in the supply chain, triggering adjustments in corporate credit policies and chain reactions throughout the entire chain. This paper, based on theories from public finance, finance, and supply chain management, systematically analyzes the scale characteristics and risk attributes of local public debt, delves into the transmission mechanism of commercial credit in the supply chain, focuses on analyzing the impact path of local public debt on the credit market and corporate commercial credit strategies, and proposes countermeasures to optimize the commercial credit transmission mechanism in the supply chain. The study finds that the expansion of local public debt increases corporate commercial credit demand by compressing credit supply, and this effect is more significant in SMEs and non-state-owned enterprises; the credit endorsement and information sharing of core enterprises in the supply chain are key carriers of commercial credit transmission, while the funding pressure caused by local debt can disrupt the stability of this transmission chain. This study provides theoretical support and practical reference for preventing the cross-sectoral spread of local debt risks and ensuring the security and stability of the supply chain.

Keywords

Local government debt, commercial credit, supply chain transmission, financing constraints.

1. Research Background

Following the 2008 global financial crisis, China launched a large-scale economic stimulus plan to offset downward economic pressure, with local governments becoming the core force in infrastructure construction and investment in people's livelihood. Constrained by the mismatch between fiscal power and responsibilities following the tax-sharing reform, local governments have resorted to hidden channels such as establishing financing platform companies to incur massive debt, leading to an explosive growth in local public debt. Statistics show that the number of local government financing platforms surged from around 400 in 2004 to 11,872 in 2014, and the debt scale expanded from hundreds of billions of yuan to tens of trillions of yuan, becoming a significant factor affecting macroeconomic stability. While the rapid growth of local public debt has effectively boosted investment and promoted economic recovery, it has also brought multiple problems, including the strong concealment of hidden debt, uneven regional

distribution, and a lack of risk warnings, profoundly impacting the allocation of funds in the financial market and the financing environment for real economy enterprises^[1].

In China's financial system, commercial bank loans are the primary channel for corporate financing. However, the expansion of local government public debt has created a significant credit crowding-out effect. Local government financing platforms, leveraging the implicit government guarantee advantage, have become the priority recipients of commercial bank credit resources, leading to a concentration of credit funds in government-related projects. This leaves real economy enterprises, especially SMEs and non-state-owned enterprises, facing difficulties in accessing affordable financing. Against this backdrop, commercial credit, as an informal financing method formed between upstream and downstream enterprises in the supply chain based on long-term cooperative relationships, is becoming increasingly important^[2]. Through accounts receivable, accounts payable, and advance payments, commercial credit builds a capital transmission network within the supply chain, effectively filling the structural gap in bank credit, alleviating short-term funding pressures on enterprises, and improving the efficiency of supply chain collaborative operations. Data shows that commercial credit support for subsidiaries accounts for nearly 40% of the annual related-party guarantees provided by listed companies in China, making commercial credit an indispensable financing tool in daily business operations^[3].

However, the credit market volatility triggered by the expansion of local government public debt is profoundly altering the supply chain transmission logic of commercial credit^[4]. When commercial banks' lending capacity is squeezed by local government debt, companies are forced to adjust their commercial credit policies to maintain liquidity: tightening credit terms and increasing prepayment ratios for downstream customers, and shortening payment cycles for upstream suppliers. This policy adjustment generates a chain reaction through the supply chain network, potentially leading to a contraction in commercial credit, hindered cash flow, and even the risk of supply chain disruption. Simultaneously, the regional differentiation of local government public debt means that commercial credit adjustments by companies in debt-rich areas are transmitted across regional supply chains to debt-poor areas, creating a cross-regional risk diffusion effect^[5]. Currently, questions regarding how local government public debt affects the transmission of commercial credit through the credit market, how different types of enterprises can cope with this shock, and how to optimize transmission mechanisms to buffer debt risks have not yet been fully explained theoretically and empirically tested. In-depth exploration of these issues has significant theoretical value and practical implications for preventing and resolving local debt risks, ensuring the security and stability of the supply chain, and promoting the high-quality development of the real economy^[6].

2. Scale Characteristics and Risk Attributes of Local Public Debt

2.1. The scale expansion and structural characteristics of local public debt

The expansion of local government public debt in China has distinct historical context and systemic roots. Following the 1994 tax-sharing reform, the proportion of central government revenue increased significantly while the proportion of local government revenue decreased. However, the responsibilities of local governments in infrastructure construction and public welfare continued to increase, creating an imbalance between fiscal power and responsibilities that sowed the seeds for the expansion of local debt. The economic stimulus policies following the 2008 financial crisis further fueled the rapid growth of local government public debt. Local governments borrowed through various channels, including financing platform companies, government funds, and PPP projects, resulting in a debt structure where explicit and implicit debt coexist.

2.2. Core Risk Attributes of Local Public Debt

The risk attributes of local government public debt are mainly reflected in three aspects: concealment, regionality, and transmission. First, it is highly concealed. Hidden debts formed by local governments through financing platform companies, government procurement of services, and illegal guarantees lack unified statistical standards and regulatory criteria, making it difficult for the central government to fully grasp the true scale of the debt, resulting in significant challenges in risk warning and prevention. Ma Haitao (2004) pointed out that local government public debt often involves both legal and illegal debts, with diverse debt entities and complex fund flows, posing a significant challenge to debt risk identification and quantification. Second, there are significant regional differences. The economic development levels, fiscal strength, and debt management capabilities of different regions vary considerably, leading to regional differentiation in debt risk. The eastern region, with its strong economic growth and ample fiscal revenue, has a stronger debt repayment capacity; the central and western regions, with relatively slow economic growth and limited fiscal revenue, are highly dependent on transfer payments from higher levels of government, resulting in relatively prominent debt risks.

2.3. Institutional Causes of Local Public Debt Expansion

The underlying reason for the expansion of local public debt lies in the dual constraints of the economic and fiscal systems. From the perspective of the economic system, since the reform and opening up, local governments have become the dominant force in regional economic development. GDP growth and infrastructure construction have become core performance indicators for local governments. This development orientation has prompted local governments to promote investment growth through large-scale borrowing, forming a "debt-investment-growth" development model. Ma Haitao (2004) argues that with the deepening of economic system reform, local governments have gained more autonomy in development, but at the same time, they have also assumed more expenditure responsibilities. The increasing pressure on fiscal expenditure has led to a continuous increase in the debt burden.

3. Supply Chain Transmission Mechanism and Functional Value of Commercial Credit

3.1. Supply chain transmission mechanism of commercial credit

The effective transmission of commercial credit in the supply chain relies on three pillars: the credit endorsement of core enterprises, information sharing mechanisms, and long-term cooperative relationships. As the dominant players in the supply chain, core enterprises, with their strong financial resources, good credit ratings, and extensive market influence, can provide commercial credit support to upstream and downstream SMEs, lowering the financing threshold for SMEs. For example, core enterprises can provide short-term financial support to suppliers by extending payment terms; simultaneously, the credit endorsement of core enterprises can enhance the creditworthiness of SMEs within the supply chain, helping them access more commercial credit resources.

Information sharing mechanisms are crucial for the transmission of commercial credit within the supply chain. In a supply chain, core enterprises typically possess key information such as the operating conditions, transaction records, and creditworthiness of upstream and downstream enterprises. By establishing an information sharing platform, core enterprises can transmit this information to all participants in the supply chain, reducing information asymmetry among enterprises. This reduction in information asymmetry enhances suppliers' ability to assess customer creditworthiness, increases their willingness and efficiency in supplying commercial credit, and promotes the smooth transmission of commercial credit

throughout the supply chain. Research by Shi Xiaojun and Zhang Shunming (2010) shows that supply chains with higher information transparency have higher efficiency in the use of commercial credit and better transmission effects.

3.2. The Supply Chain Functional Value of Commercial Credit

Trade credit has irreplaceable functional value in the supply chain, mainly reflected in three aspects: financing support, risk sharing, and relationship governance. In terms of financing support, trade credit can effectively alleviate the financing constraints of enterprises, especially SMEs. Because SMEs have low credit ratings and lack qualified collateral, they find it difficult to obtain bank credit support. Trade credit, based on supply chain transaction relationships, requires no additional collateral or guarantee, making it an important channel for short-term financing for SMEs. Cui Huiyu (2026)'s research shows that enterprises facing financing constraints can alleviate financial pressure and improve financing efficiency by utilizing trade credit.

4. The Impact Path of Local Public Debt on the Transmission of Commercial Credit Supply Chain

4.1. Credit crowding-out effect: Local public debt triggers demand for commercial credit

The expansion of local government public debt directly induces corporate demand for commercial credit through a credit crowding-out effect. Local governments borrow through financing platform companies, requiring substantial commercial bank credit support. However, based on risk appetite and policy orientation, commercial banks tend to allocate credit resources to financing platform projects with implicit government guarantees, leading to a squeeze on credit supply to real economy enterprises. Wu Min et al. (2022) found that the issuance of local government public debt reduces commercial banks' excess reserves, lowers banks' credit creation capacity, and ultimately leads to a contraction in corporate loan volume. Gao Jiechao et al. (2023) pointed out that banks are more inclined to allocate such assets due to the low-risk characteristics of government bonds, thereby reducing credit to enterprises.

4.2. Adjustment of Credit Policy: Micro-level Behaviors of Enterprises in Response to Debt Shocks

Faced with financing constraints caused by the expansion of local government debt, enterprises will proactively adjust their commercial credit policies to maintain their liquidity and operational stability. This policy adjustment is mainly reflected in two aspects: first, tightening credit to downstream customers, including shortening credit terms, increasing prepayment ratios, and reducing credit limits, to alleviate their own financial pressure by accelerating cash flow; second, adjusting payment strategies to upstream suppliers, including shortening payment cycles and seeking more lenient payment terms, to reduce their own capital occupation. Chang Huixian's (2024) research shows that when enterprises face financial pressure, they will optimize cash flow and ensure the normal operation of their business by adjusting their commercial credit policies.

Structural Differentiation Effect: Differences in Response from Different Types of Enterprises

The impact of local government debt on the transmission of commercial credit in the supply chain exhibits significant enterprise heterogeneity. From the perspective of enterprise ownership, state-owned enterprises (SOEs) have a natural advantage in the credit market, experiencing relatively less credit crowding-out effects and undergoing more moderate adjustments to their commercial credit policies. In contrast, non-SOEs face more severe credit constraints, are more dependent on commercial credit, and experience more frequent and

significant adjustments to their commercial credit policies. Furthermore, SOEs, leveraging their market position and credit advantages, can more easily obtain commercial credit support within the supply chain, alleviating their own pressure by utilizing funds from upstream suppliers. Non-SOEs, on the other hand, are at a disadvantage in accessing commercial credit and face more severe cash flow difficulties.

5. Policy Recommendations for Optimizing the Transmission Mechanism of Commercial Credit Supply Chain

5.1. Deepen the reform of local government debt management to alleviate credit crowding-out at the source

Optimizing the commercial credit supply chain transmission mechanism requires, first and foremost, deepening local debt management reform to alleviate the crowding-out effect on credit at its source. This involves: 1) Improving the local debt limit management system, scientifically determining debt limits, strictly controlling the increase in hidden debt, and resolving existing debt through debt swaps and restructuring to reduce the pressure of local debt crowding out credit resources. 2) Promoting fiscal and tax system reform, further clarifying the division of powers and expenditure responsibilities between the central and local governments, appropriately shifting powers upwards for nationally coordinated public services such as education, social security, and healthcare to alleviate the pressure of rigid expenditures on local governments; increasing transfer payments to fiscally weak regions in the central and western parts of the country, raising the proportion of general transfer payments, and enhancing local financial autonomy. 3) Standardizing the management of financing platform companies, promoting their market-oriented transformation, separating them from government financing functions, and enabling them to become independent market entities responsible for their own profits and losses, thereby reducing excessive reliance on credit resources.

5.2. Strengthen the role of core enterprises in the supply chain and build a credit transmission hub

Core enterprises, as the leaders of the supply chain, are key players in optimizing the commercial credit transmission mechanism. First, support core enterprises in establishing supply chain finance platforms to integrate supply chain transaction data and credit information, providing precise commercial credit support and financing services to upstream and downstream SMEs. Core enterprises can provide commercial credit support to SMEs by extending payment terms and providing credit endorsements; simultaneously, they can utilize supply chain finance platforms to securitize accounts receivable, recover funds in advance, and ensure their own liquidity. Second, encourage core enterprises to establish information sharing mechanisms, opening up operating data, credit ratings, transaction records, and other information to upstream and downstream enterprises, reducing information asymmetry between enterprises and improving the efficiency of commercial credit transmission. Third, support core enterprises in building a diversified commercial credit system, combining various credit instruments such as accounts payable, commercial acceptance bills, and supply chain bills to meet the financing needs of different types of enterprises and enhance the flexibility and stability of supply chain commercial credit.

5.3. Improve commercial credit support policies and optimize the external institutional environment

The government should introduce targeted policies to create a favorable external environment for the transmission of commercial credit in the supply chain. First, it should establish and

improve the legal and regulatory system for commercial credit, refine relevant systems for accounts receivable and accounts payable management, clarify the rights and obligations of both parties in commercial credit transactions, standardize commercial credit behavior, and reduce default risks. Second, it should promote the construction of a social credit system, establish a corporate commercial credit evaluation mechanism, incorporate commercial credit performance into corporate credit files, implement joint penalties for dishonest enterprises, and increase the cost of default for enterprises. Third, it should increase support for commercial credit for SMEs, encouraging commercial banks and guarantee institutions to provide support for commercial credit financing for SMEs through fiscal subsidies, tax incentives, and other means, thereby alleviating the difficulty SMEs face in obtaining commercial credit. Fourth, it should promote innovative supply chain finance products, supporting commercial banks in carrying out businesses such as accounts receivable factoring, pledged loans, and commercial acceptance bill discounting, broadening commercial credit financing channels and improving the liquidity of commercial credit funds.

6. Conclusion and Outlook

The expansion of local government public debt, through a credit crowding-out effect, profoundly impacts the supply chain transmission logic of commercial credit, becoming a significant factor affecting supply chain stability and the development of the real economy. This study finds that the expansion of local government public debt leads to the concentration of commercial bank credit resources in government-related projects, resulting in financing constraints for real economy enterprises, especially SMEs and non-state-owned enterprises, thus inducing demand for commercial credit. Enterprises adjust their commercial credit policies to cope with funding pressures; this adjustment generates a chain reaction through the supply chain network, potentially leading to a contraction in commercial credit and a decline in supply chain efficiency. Significant differences exist in the adjustment and response of commercial credit among enterprises of different ownership, size, and life cycle.

To optimize the commercial credit supply chain transmission mechanism and mitigate the negative impact of local government debt, efforts are needed from multiple dimensions, including source governance, empowering key players, optimizing the environment, and preventing risks. This includes deepening local debt management and fiscal and tax system reforms to alleviate credit squeeze at the source; strengthening the pivotal role of core enterprises in supply chain credit transmission and building an efficient credit transmission network; improving the legal and policy support system related to commercial credit and optimizing the external institutional environment; and enhancing enterprises' commercial credit management capabilities and risk response levels. Through coordinated efforts in multiple areas, the efficiency of commercial credit supply chain transmission can be effectively improved, supply chain resilience can be enhanced, and the impact of local government debt risks on the real economy can be buffered.

Future research can be further expanded in the following directions: First, to construct more accurate econometric models and empirically test the specific impact and heterogeneity characteristics of local public debt on the transmission of commercial credit supply chains; second, to select typical industries and enterprises for case studies to deeply analyze the micro-mechanisms of commercial credit supply chain transmission; and third, to explore the application of new technologies such as digital finance and blockchain in the transmission of commercial credit supply chains, providing new ideas and methods for optimizing the transmission mechanism.

Acknowledgements

This work is supported by Anhui University of Finance & Economics 2025 Undergraduate Research innovation fund project fund, Project number: XSKY25099

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