

Research on the Path of Smart Investment and Financing Platforms to Alleviate the Financing Constraints of Small and Micro Enterprises from a Transaction-Cost Perspective

Kexuan Zhang^{1,*}

¹ zhangz022@163.com; Address: Tiansheng Road No. 2, Beibei District, Chongqing 400715, China

Abstract: As the most numerous market entities in the national economy, small and micro enterprises (SMEs) play a crucial role in employment creation, innovation, and industrial upgrading. However, due to severe information asymmetries and the lack of scale economies, SMEs have long faced the structural dilemma of “difficult and costly financing,” whose core lies in persistently high transaction costs. Based on transaction cost theory, this paper analyzes the cost structure of SME financing from the three dimensions of search costs, decision-making costs, and supervisory/execution costs, and further examines the mechanisms through which smart investment and financing platforms reduce such costs with the support of digital technologies. The findings indicate that through data integration, process restructuring, and dynamic risk control, these platforms establish a full-chain cost-reduction system characterized by “information integration—process optimization—risk sharing,” thereby improving the “cost-benefit” structure of financial institutions and enhancing their willingness to extend credit. The paper also identifies key challenges in practice, including data security, algorithmic fairness, and system coordination, which require privacy-preserving computation, standardized interface systems, and strengthened regulatory collaboration for resolution. This study provides theoretical insights and policy implications for the development of smart financial infrastructures.

Keywords: Transaction costs; Small and micro enterprises; FinTech; Smart investment and financing platforms

Academic Editor: Xinyu Zhao

Received: November 25th, 2025

Revised: November 27th, 2025

Accepted: November 30th, 2025

Published: December 12th, 2025

1. Introduction

Small and micro enterprises (SMEs) and individual businesses are among the most dynamic micro-economic actors and constitute a critical foundation for macroeconomic resilience. By the end of 2024, SMEs accounted for more than 90% of China’s market entities and contributed over 60% of GDP, more than 50% of tax revenue, and nearly 80% of urban employment. As vital drivers of new growth momentum, SMEs serve irreplaceable functions in job creation, innovation, and industrial transformation. However, SME financing resources have long remained constrained by structural issues of “limited access, high costs, and high hurdles.” Extensive research shows that this phenomenon is not merely the result of risk premiums but stems from accumulated transaction costs arising from information asymmetries.

On the one hand, SMEs’ small scale and weak risk-bearing capacity inherently increase credit risks. On the other hand, substantial information asymmetry between banks and enterprises results in high market friction costs, making “difficult and costly

financing” a persistent impediment to SME development. Despite coordinated efforts by central authorities—such as deploying credit, bond, and equity “three arrows,” and implementing targeted reserve requirement cuts, relending, rediscounting, and tools like TMLF—SMEs continue to face financing challenges under deep structural adjustments and transitioning growth drivers.

More specifically, supply-chain restructuring, insufficient collateral, high thresholds for emerging asset-based financing, and difficulties in valuation all impose financing constraints on SMEs. Meanwhile, due to low financial transparency, financial institutions incur exceedingly high operating costs and face moral hazard risks across pre-lending investigation, mid-lending review, and post-lending supervision^[1]. For high-frequency, small-sized credit demands typical of SMEs, the marginal returns of financial institutions rarely cover their fixed transaction costs, resulting in misaligned cost-benefit structures and weakened service incentives. Fragmented policy implementation and departmental information silos further hinder transmission effectiveness.

China’s “14th Five-Year Plan and 2035 Long-Range Objectives” calls for innovation in financial support tools for private enterprises and for improving credit enhancement systems. With advances in big data, artificial intelligence, blockchain, and digital credit technologies, smart investment and financing platforms—leveraging government guidance, financial institution participation, and cross-sectoral data sharing—have become an essential tool for addressing SME financing constraints. This paper applies transaction cost theory to analyze the intrinsic cost structure of SME financing and reveal how such platforms reduce transaction costs across the financing chain.

2. Literature Review and Research Progress

2.1. Research developments on SME financing constraints

Existing research on the financing challenges of SMEs primarily centers on under-investment and credit rationing. According to the pecking-order theory of Myers and Majluf (1984)^[2], information asymmetry leads external investors to demand higher risk premiums, prompting firms to favor internal financing; when internal cash flow is insufficient, firms fall into under-investment (Richardson, 2006)^[3]. Empirical studies on Chinese enterprises (Xiao, 2010; Luo & Wang, 2015)^[4] have widely validated this conclusion.

Information asymmetry is widely recognized as the fundamental cause of high financing transaction costs. Williamson (2022)^[5] identifies pre-contract screening costs and post-contract monitoring costs as central barriers for SME financing. Liu and Jiang (2006) summarize these barriers into three asymmetries: information asymmetry, risk asymmetry, and asymmetry between returns and costs, all of which hinder monetary-policy transmission at the terminal stage. With the rise of the digital economy, Merton (2023) finds that multi-source data integration and analytics can reduce SME credit assessment costs by roughly 35%, suggesting that digital technologies offer substantial potential for transaction-cost reduction.

2.2. SME financing constraints and financial support policies

From a transaction-cost perspective, SME financing difficulties essentially reflect market failures arising from excessively high transaction costs across search, decision-making, and execution stages.

First, search and information costs are substantial. Due to weak accounting systems, SMEs lack standardized data, and soft information is difficult to obtain through public

channels. Banks often cannot access data adequate for robust risk modeling. Conversely, SMEs face high time and effort costs in searching for suitable financial products.

Second, negotiation and decision-making costs are high. The absence of standardized and verifiable credit histories forces financial institutions to rely on labor-intensive, multi-stage manual approval processes. Prolonged internal coordination and repetitive risk-evaluation meetings inflate decision-making costs. To compensate for uncertainty, banks impose risk premiums, raising loan interest rates.

Third, supervision and execution costs remain burdensome. To mitigate moral hazard, financial institutions must continuously monitor fund usage and operating conditions. In case of default, enforcement against SME assets is often inefficient due to lengthy legal procedures and low asset-recovery rates, sometimes exceeding loan principal.

These cost structures produce strong diseconomies of scale in traditional lending, contributing to financial institutions' reluctance to lend. Although governments at various levels have introduced support programs and constructed financing service platforms, existing systems remain fragmented, data flow is delayed, and the fundamental cost-risk imbalance has not been resolved. A technologically enhanced, integrated smart investment and financing platform is therefore urgently needed.

3. The Cost-Reduction Mechanisms of Smart Investment and Financing Platforms

Smart investment and financing platforms are not merely digital extensions of offline business. Instead, they represent new financial infrastructures built on big data, artificial intelligence, blockchain, and digital credit technologies, integrating banks, guarantee institutions, leasing companies, and other financial actors while leveraging governmental policy support. Their core function lies in systematically reducing transaction costs through technological enablement and institutional innovation.

3.1. Data-integration mechanisms reducing search costs

A key platform function is breaking information silos and integrating multi-dimensional data from finance, taxation, business registration, judicial systems, utilities, and supply chains. Through real-time data algorithms, the platform shifts bank-enterprise matching from blind searches to precise targeting. Standardized cleaning and structuring of vast unstructured datasets enable comprehensive enterprise profiling. AI-driven credit-scoring models identify default-risk variables and support differentiated lender decisions. This centralized processing converts banks' dispersed marginal search costs into a platform-level fixed cost, significantly lowering per-transaction information-verification costs. SMEs also benefit by avoiding repetitive submission of basic documentation.

3.2. Digitalized process reconstruction reducing decision-making costs

To reduce negotiation and decision-making costs, the platform reconstructs the credit process, enabling "one-time submission, fully online processing." In compliance with regulatory requirements for prudent online lending, pre-lending investigation, document submission, approval, and contract signing are fully digitalized. Unified credit-product templates and standardized fee schedules prevent opaque pricing and hidden charges. Smart contracts automatically generate financing terms based on enterprise credit ratings and funding needs, significantly shortening bargaining time. Automated AI approval models replace manual reviews for inclusive-finance loans, verifying document authenticity and enabling "instant application, instant approval,

instant disbursement.” Standardized decision workflows reduce labor input and remove human-driven moral hazard and rent-seeking, minimizing total decision-making costs.

3.3. Dynamic risk-control mechanisms reducing supervision and execution costs

In post-lending stages, the platform builds an integrated risk-prevention system. Using IoT sensors, tax records, supply-chain data, and operational transaction flows, the platform constructs real-time risk-monitoring models. Once anomalies arise, automatic alerts prompt targeted interventions, substantially reducing human inspection costs. A “bank+guarantee+government” risk-sharing mechanism further lowers default-disposal costs by broadening loss-absorption capacity. Standardized default-handling procedures also reduce legal friction costs and strengthen lenders’ confidence, thus enhancing the endogenous motivation of financial institutions to serve SMEs.

4. Practical Challenges and Policy Responses

4.1. Key challenges

Despite notable cost-reduction effects, several challenges persist. First, data-security and privacy-protection requirements are stringent. Platforms aggregate highly sensitive business and credit data, raising risks of data misuse or leakage if not managed under strict legal frameworks such as the Cybersecurity Law and Data Security Law.

Second, algorithmic fairness and transparency require attention. Biased model design or skewed training data may generate implicit discrimination, excluding certain SME groups from credit access and undermining financial-inclusion objectives.

Third, system-coordination costs remain high. In some regions, heterogeneous banking IT systems and incompatible interfaces impede data transmission, limiting the conversion of online processes into actual loan disbursements.

4.2. Optimization paths

To address these issues, future efforts should focus on low-cost, secure data-sharing and balanced technological development. Privacy-preserving computation, blockchain, and “available-but-not-visible” data-sharing frameworks should be adopted following principles of classification, tiered access, and authorized use. Drawing on central bank credit-database standards, large-scale security infrastructure can reduce per-unit security costs.

Governments should lead digital-capability training efforts, especially for smaller financial institutions and less developed regions, and promote standardized open API interfaces to reduce platform access costs. A closed-loop supervision system encompassing enterprises, platforms, and financial institutions should be established, using metrics such as response times and credit-conversion rates, and incorporating platform performance into regulatory evaluations. Platforms may also expand value-added functions—such as supply-chain finance and legal-consulting services—to spread operating costs and reduce dependence on fiscal subsidies.

5. Conclusion

Drawing on transaction cost theory, this study demonstrates that the fundamental obstacle to SME financing lies in excessively high transaction costs associated with information collection, credit assessment, contract negotiation, and supervisory enforcement. Smart investment and financing platforms effectively reduce these costs through deep integration of FinTech and policy tools, forming a full-chain system of

“information integration—process optimization—dynamic risk control—policy support.” This transformation enhances the internal incentives of financial institutions by improving their cost-benefit structures and promotes the shift of inclusive finance from a policy-driven mandate to a commercially sustainable model.

The long-term success of such platforms depends on the coordinated interplay between an “effective market” and an “active government.” Future development should prioritize data-governance frameworks, algorithmic-ethics standards, and balanced technological deployment to fully unlock the potential of smart investment and financing platforms in reducing transaction costs and supporting high-quality SME development.

References

1. Xiao, M. Cash Dividends, Internal Cash Flow, and Investment Efficiency[J]. *Financial Research* 2010, 10, 117–134.
2. Luo, Q.; Wang, Y.-G. Real Earnings Management and the Cost of Equity Capital: An Analysis Based on Firm Growth Heterogeneity[J]. *Financial Research* 2015, 5, 178–191.
3. Williamson, O.E. Transaction Cost Economics: The Natural Progression[J]. *American Economic Review*, 2022, 112, 1395–1416.
4. Liu, Y.-G.; Jiang, N.-Y. A Review of Agency Theory[J]. *The Academic Circles* 2006, 1, 69–78.
5. Merton, R.C. Fintech and Small Business Finance: Evidence from U.S. Data[J]. *Journal of Financial Economics*. 2023, 148, 412–430.