Proceedings of Business and Economic Studies, 2026, Volume 9, Issue 4
http://ojs.bbwpublisher.com/index.php/PBES
Online ISSN: 2209-265X
Print ISSN: 2209-2641

Research on the Credit Risk Assessment System of the "Instant Approval and Loan" Model for Small and Micro Enterprises Enabled by Fintech

Yilong Chen

Shenzhen Audencia Financial Technology Institute, Shenzhen University, Shenzhen 518000, China

Abstract: The "instant approval and loan" for small and micro enterprises relies on fintech to achieve fully online and automated credit approval processes, greatly accelerating the financing speed. However, there are numerous credit risks such as data, technology, market, operational, and legal compliance risks. Based on practical scenarios, this paper defines the core connotation of this model, analyzes the specific manifestations of five core risks, and finally constructs a feasible credit risk assessment system from four dimensions: financial status, operational capacity, credit history, and market environment. This provides practical paths for financial institutions to optimize risk control and ensure the stable operation of their businesses.

Keywords: Fintech; Small and micro enterprises; Instant approval and loan; Credit risk; Assessment system

Online publication: June 3, 2026

1. Introduction

Small and micro enterprises are an important part of the national economy. However, the problems of difficult and slow financing have always restricted their development. The rapid development of fintech has led to changes in the credit service model. The "instant approval and loan" model, with its efficiency advantage of completing approval within 3 minutes and disbursing loans within 1 second, has become the main way to solve the financing pain points of small and micro enterprises. This model relies on technologies such as big data, artificial intelligence, and blockchain to integrate multi-source data instead of traditional offline due diligence, realizing the automation of credit decisions. However, while efficiency has increased, the difficulty of risk identification and prevention has also greatly increased. The traditional risk control system relying on financial statements and manual review can no longer adapt. Creating a scientific, accurate, and dynamic credit risk evaluation system has become a key prerequisite for fintech to support the sustainable development of small and micro enterprise credit.

2. Core connotation of the “instant approval and loan” model for small and micro enterprises enabled by fintech

In the current context of industrial transformation and upgrading and increasingly fierce market competition, small and medium-sized enterprises are showing a very active posture. However, financing problems seriously restrict their innovation pace and development process. Financial institutions, out of risk considerations, often tend to serve customers with strong asset strength. Due to factors such as the imperfect credit system and the unsound information sharing mechanism of small and medium-sized enterprises, they often encounter difficulties such as limited loan amounts or high interest rates when applying for loans. The “instant approval and loan” model for small and micro enterprises is an innovative service model in which financial institutions rely on fintech means to integrate data from various aspects such as government affairs, operations, behaviors, and credit information, and use automated risk control models and real-time decision-making engines to achieve fully online, contact-less, and second-level response in the entire process of small and micro enterprise credit applications, approvals, and loan disbursements. This model has three main characteristics as follows:

(1) Data-driven replaces manual due diligence. Financial institutions no longer rely on the paper-based financial statements submitted by enterprises, but obtain multi-source data such as business registration, tax declarations, utility bill payments, e-commerce transactions, logistics transactions, and judicial litigation through authorization, constructing a three-dimensional portrait of the enterprise to eliminate information asymmetry between banks and enterprises;

(2) Model decision-making replaces experience-based judgment. Machine learning and deep-learning algorithms are used to establish risk control models, automatically completing data cleaning, feature extraction, risk scoring, and credit granting decisions, avoiding the subjectivity and lag of manual review;

(3) The entire process is automated and real-time. From customers’ online applications, identity verification, data acquisition, risk assessment, credit limit approval, to fund disbursement, the entire process does not require manual intervention. Relying on streaming computing and real-time decision-making engines, millisecond-level risk judgment and second-level loan disbursement can be achieved, greatly shortening the financing cycle.

The core value of this model is as follows. On the one hand, it can meet the short-term, small-scale, frequent, and urgent financing needs of small and micro enterprises, reducing the time cost and threshold of financing, enabling more small and micro enterprises without collateral or guarantees to obtain credit support. On the other hand, it can reduce the operating costs of financial institutions, expand the service coverage, and achieve the large-scale and sustainable development of inclusive finance.

2. Core types of credit risks in the “instant approval and loan” for small and micro enterprises enabled by fintech

2.1. Data risk

Data risk is a fundamental risk in the “instant approval and loan” model, directly affecting the accuracy of the assessment results. The data sources are scattered, and the data quality varies. The standards for government data, commercial data, and scenario data are not unified. Some data have problems such as missing, incorrect, or lagging. For example, incomplete tax data of some small and micro enterprises, false e-commerce transaction data due to brush orders , and untimely update of logistics data will all lead to deviations in risk assessment. The data privacy and security risks are relatively high. During the integration of multi-source data, there are risks

of leakage and abuse of enterprise operation data and enterprise owners' personal information. If the protection in the data storage and transmission links is not in place, it is easy to trigger data security incidents and also touch the compliance red line. The data dimension is single or overly dependent on a certain type of data. Some institutions only use tax data to build models, ignoring important information such as the actual operating cash flow and supply chain stability of enterprises, resulting in one-sided assessment results that cannot fully reflect the true credit status of enterprises [1].

2.2. Technology risk

Technology risk is caused by the complexity and uncertainty of fintech applications. The model algorithm risk is the core. Machine learning models rely on historical data for training. If the training samples are not comprehensive and the feature selection is unreasonable, it is easy to cause over-fitting or under-fitting of the model, and the ability to identify new risks and abnormal scenarios is poor. The interpretability of the model is poor. The decision-making logic of some deep-learning models is not transparent. Financial institutions cannot accurately trace the basis of risk assessment, which is not conducive to risk investigation and regulatory compliance. System stability risk. The instant approval and loan rely on a high-concurrency and low-latency technical architecture. Malfunctions of servers, networks, or decision-making engines will cause approval interruptions, loan disbursement delays, and even trigger customer complaints and business losses [2].

2.3. Market risk

Market risk is mainly due to the transmission of the macro-environment and industry fluctuations. Macroeconomic fluctuation risk. In an economic downturn, small and micro enterprises have weak risk-resistance capabilities, with declining revenues and tight cash flows, and the probability of default significantly increases. The batch credit-granting mode of "instant approval and loan" will amplify the impact scope of such risks. Industry cycle risk. Different industries have different development cycles. Traditional manufacturing and catering service industries are greatly affected by market demand and policy adjustments. If the assessment system does not distinguish industry characteristics and uniformly uses the same risk control standards, it will lead to misjudgment of risks [3].

2.4. Operational risk

Operational risk exists in all links of credit and is caused by process loopholes, human errors, or system defects. Identity verification and anti-fraud risk. In the online application mode, there are problems such as false identity of enterprise owners, application by stealing others' information, and gang fraud. If the anti-fraud model fails to identify in time, it will result in false credit granting. The risk of ineffective monitoring and early warning during the loan period. Most instant approval and loan are unsecured loans. Without collateral or guarantees, if the post-loan data monitoring is not timely and the early warning rules are lagging, it will not be possible to timely detect risk signals such as deteriorating enterprise operations and a sharp increase in liabilities, missing the opportunity for risk disposal.

2.5. Legal and compliance risk

Legal and compliance risk is the bottom line for the stable operation of the mode. Data compliance risk. The acquisition and use of multi-source data must comply with regulations such as the "Data Security Law of the People's Republic of China" and the "Personal Information Protection Law of the People's Republic of

China". If full authorization from customers is not obtained or the data use exceeds the agreed scope, it will face regulatory penalties and legal litigation. Credit compliance risk. The credit-granting decisions, interest rate pricing, and post-loan management of instant approval and loan must comply with the regulatory policies for small and micro enterprise credit. Behaviors such as illegal credit granting, violent debt collection, and insufficient information disclosure will touch the regulatory red line. Legal dispute risk. The signing of online contracts and the retention of electronic evidence are not standardized. When there is a breach of contract, financial institutions cannot recover through legal channels, increasing the risk of credit losses [4].

3. Construction of the credit risk assessment system for the "instant approval and loan" model for small and micro enterprises enabled by fintech

3.1. Financial status dimension

The financial status dimension mainly examines the solvency of enterprises and the stability of cash flows, which is the basis of risk assessment. This dimension integrates traditional financial data and alternative data to create a dynamic financial evaluation index system. In terms of short-term solvency, the current ratio, cash ratio, and cash flow coverage ratio are mainly examined. The model of relying solely on statement data is abandoned, and data such as the enterprise's bank statements, invoice data, and revenue and profit data in tax declarations are taken into consideration to evaluate the enterprise's immediate solvency [5]. By analyzing the average daily cash flow and the accounts payable turnover days of the enterprise in the past six months, it is judged whether the enterprise has the financial ability to cover the due debts. In terms of profitability, the gross profit margin, net profit margin, and revenue growth rate are monitored. Combining with the industry average level, the sustainability of the enterprise's profitability is evaluated. For enterprises with continuous revenue decline and gross profit margin lower than the industry average, the risk weight is increased. In terms of debt structure, the asset-liability ratio, the proportion of short-term debt, and the multi-institution debt situation are focused on verification. If the enterprise's asset-liability ratio exceeds 70% and has outstanding credits in more than 5 institutions, it is directly judged as high-risk, and the credit limit is strictly controlled [6]. In terms of the authenticity of financial data, tax data, invoice data, and bank statements are cross-verified to detect the risk of financial fraud. For example, if the deviation between the tax-declared revenue and the invoice-issued amount exceeds 10%, a deep-verification process is initiated [7].

3.2. Operational capacity dimension

In terms of operational stability, the enterprise's operating years, compliance of business annual reports, continuity of utility bill payments, and social security payment situation are monitored. Enterprises that have been operating for more than 3 years, have no abnormal business records, and have continuous utility bill payments have stronger operational stability and lower risks. In terms of business activity, e-commerce transaction data, logistics receiving and sending data, and order data are integrated to analyze the average daily number of transactions, order growth rate, and logistics frequency, evaluating the activity and growth trend of the enterprise's business development. Enterprises with stagnant business and a sharp drop in orders are included in high-risk warnings. In terms of supply chain collaboration ability, for small and micro enterprises in the industrial chain, the transaction frequency with core enterprises, the accounts receivable collection cycle, and the timeliness of accounts payable payment are analyzed to evaluate the supply chain stability. For enterprises with core enterprise defaults and accounts receivable overdue for more than 90 days, the credit limit

is reduced. From the perspective of innovation and development ability, the enterprise's patent applications, R D investment, and new product launches are monitored. For technology-based and innovative small and micro enterprises, the risk weight is appropriately reduced to reflect policy orientation and development potential [8].

3.3. Credit history dimension

In terms of enterprise credit records, the credit report from the People's Bank of China, tax credit ratings, judicial litigation records, administrative penalty information, etc. are integrated. The default rate of enterprises with a tax credit rating of A is only 1/8 of that of enterprises with a tax credit rating of D. The tax credit rating is taken as the core indicator, with a weight of 25%. Enterprises with records of being listed as dishonest executors, major litigations, and tax violations are directly rejected for credit. In terms of enterprise owners' credit records, a two-dimensional evaluation model for enterprises and enterprise owners is established. The enterprise owner's personal credit report, overdue records, debt situation, and judicial disputes are included in the evaluation scope. Poor personal credit of the enterprise owner will directly affect the enterprise, and such enterprises need to raise the risk threshold. In terms of credit performance records, the enterprise's past credit repayment situation, number of overdue payments, and settlement status are examined. Enterprises with no overdue payments in the past 12 months and timely settlement have a high credit score. Enterprises with continuous overdue payments and the behavior of using loans to repay loans are listed as high-risk customers. Negative information monitoring. Big data crawler technology is used to monitor the online public opinion, complaint records, and industry blacklists of enterprises and enterprise owners in real-time to promptly discover potential credit risks [9].

3.4. Market environment dimension

In terms of the macro-economic environment, regional GDP growth rate, interest rate level, and monetary policy orientation are included. In an economic downturn and rising interest rate cycle, the credit standards are appropriately tightened to reduce the overall risk exposure. In terms of the industry development environment, according to the different risk characteristics of different industries, differentiated evaluation models are established for manufacturing, service, e-commerce industries, etc. The non-performing rate of the new energy industry is only 0.9%, while that of the traditional catering industry is as high as 3.8%. The risk weight for high-volatility industries is increased. The industry growth rate, policy support level, and market concentration are monitored. Industries with policy support and stable growth have lower risks. In terms of the regional business environment, referring to the regional business environment ranking, small and micro enterprise support policies, and judicial execution efficiency, the default rate of small and micro enterprises in regions with a good business environment such as the Yangtze River Delta is 1.2% lower than the national average. The risk coefficient is appropriately adjusted during the assessment. In terms of the market competition environment, the degree of competition in the industry where the enterprise is located and the change in market share are analyzed. Enterprises in overly competitive markets with a continuous shrinkage of market share have higher operating risks [10].

4. Conclusion

The "instant approval and loan" model for small and micro enterprises enabled by fintech is the main direction of the development of inclusive finance. A scientific and complete credit risk assessment system is an important

guarantee for its stable development. This paper conducts research from three aspects: the model connotation, risk types, and assessment dimensions, constructing a multi-dimensional assessment system that includes not only the financial, operational, and credit status of the enterprise itself but also the influence of the external market environment, achieving comprehensiveness, accuracy, and dynamics in risk assessment. In the future, financial institutions need to continuously improve the evaluation system, strengthen the integration of multi-source data, update risk control model technologies, and adapt to small and micro enterprises in various industries and at various life-cycle stages. Adhere to the compliance bottom line, balance financing efficiency and risk control, so that the instant approval and loan model can not only serve small and micro enterprises but also achieve its own sustainable development, injecting strong financial impetus into the real economy.

Disclosure statement

The author declares no conflict of interest.

References

[1] Wang K, 2026, Credit Risk Prevention and Control of Small and Micro Enterprises in the 'Bank-Tax Interaction' Model. Sales & Management, 2026(7): 30–32.

[2] Xu Y, 2026, International Experience of Patient Capital Enabling the Development of Science-and-Technology-based Small and Medium-sized Enterprises. Communication of Finance and Accounting, 2026(6): 3–16.

[3] Yang J, Xia J, Yu H, 2026, Green Credit Policy and the Optimization and Dynamic Adjustment of the Capital Structure of Polluting Enterprises. Communication of Finance and Accounting, 2026(5): 56–60.

[4] Wu Y, 2026, On the Management of Accounts Receivable of Modern Enterprises from the Perspective of Whole-process Management. Market Outlook, 2026(5): 160–162.

[5] Li M, 2026, Identification and Prevention Strategies of Enterprise Financial Fraud from the Perspective of Bank Customer Economy. Market Outlook, 2026(5): 64–66.

[6] Liu H, 2026, Innovation of Rural Enterprise Loan Models and Optimization of Service Systems. Shanxi Agricultural Economy, 2026(3): 238–240.

[7] Lu M, 2026, Identification of Financial Risks of Loan-taking Enterprises and Collaborative Prevention Strategies between Banks and Enterprises. New Silk Road Horizon, 2026(1): 130–132.

[8] Li X, 2025, Key Points of Industry Credit Concerns in the Survey of Inclusive Finance Loans for Small and Micro Enterprises. China Credit, 2025(11): 96–99.

[9] Deng C, 2025, Research on the Dilemmas and Countermeasures of Loan Financing for Small and Medium-sized Enterprises. Business 2.0, 2025(30): 103–105.

[10] Gao D, Ma Y, 2025, Can Banks Identify Misreported Financial Information of Enterprises in Advance? Evidence from Loan Data of a State-owned Commercial Bank. Accounting Research, 2025(10): 32–43.