Practical Research on Credit Investigation Platform Based on Data Sharing in China

Wenjing Hu

School of Economics, Sichuan University, Chengdu 610065, China

71840508@qq.com

Keywords: Data, Sharing, Credit Investigation Platform, Finance.

Abstract: As a key production factor in the digital economy era, data is conducive to accurately tap the economic and financial needs and create a new economic form of value and social wealth. Building a credit investigation platform based on data sharing is conducive to solving the financing difficulties of small and micro enterprises caused by information asymmetry and helping the high-quality development of economy and finance. This paper takes the practical development of big data credit investigation platform in China as the research object, analyzes the current situation of these platforms, and puts forward policy suggestions for future development.

1. Introduction

The financing difficulties of small and micro enterprises have been highly concerned by the Party Central Committee, the State Council and all sectors of society. From the perspective of internal causes, small and micro enterprises have "inherent deficiencies", imperfect governance structure and uneven operation and management level. From the perspective of external factors, there is information asymmetry between banks and enterprises, and the business information transparency of small and micro enterprises is limited. In the case of scarce credit resources, banks often have to pay a greater price to review the loan qualification of small and micro enterprises. If the bank can not know the actual operating capacity and development prospects of the enterprise, "more loan is better than less loan, less loan is better than no loan" will be difficult to avoid in reality. The information asymmetry between banks and enterprises has become the focus of financing obstruction of small and micro enterprises.

Under the traditional credit investigation mode, the data information exchange between different departments is disjointed, and the data information intermediary service institutions are not trusted, which will lead to insufficient information and low credibility. Although the national centralized credit reporting system has basically achieved full coverage of the credit records of licensed financial institutions, the sharing degree of alternative data is still low. There are problems of data fragmentation and information island between banks and enterprises, especially the people with "no credit records" urgently need to excavate credit value through alternative data. Therefore, the establishment of a big data credit investigation platform, the collection of massive alternative data scattered in various departments, the in-depth mining of credit value in the non-financial field through financial technology and the promotion of financing docking have become the "cow nose" to improve the financing quality and efficiency of small and medium-sized enterprises.

2. Application and Prospect of big data credit investigation platform in financial field

In recent years, with the rapid development of information network technology, the latest IT technology has been used to build a big data credit investigation platform, depict the corporate credit portrait through the sharing of credit information between different departments, and alleviate the financing difficulties caused by information asymmetry.

2.1 Big data credit investigation platform is a co construction system based on multiple network connectivity

As a financial infrastructure, big data credit investigation platform needs the joint participation of the government, financial regulatory departments, financial institutions, technology companies, the public and other parties. In order to achieve smooth access to the platform by all parties, a multi network connected network structure should be established, the horizontal private network directly connects financial institutions, government departments and third-party credit investigation institutions, and extends vertically through cities, prefectures, districts and counties to realize multi-party joint construction. On this basis, new technologies such as distributed architecture, application container and machine learning are used to ensure the scalability of big data credit investigation platform in function and performance, and create a new service mode of "multi-party participation, open sharing".

2.2 Big data credit investigation platform is a data application supported by financial technology

The big data credit investigation platform can build an effective mechanism for data aggregation, big data processing and interpretation, modeling analysis and prediction through artificial intelligence, big data, blockchain and other technologies, so as to reduce the cost and potential risk of information supply. When the conditions are ripe, the transaction of data elements can also be carried out.

(1) Data sharing. The big data credit investigation platform can flexibly adopt centralized collection or channel sharing to realize credit information sharing, integrate dynamic personal and enterprise data through centralized integration, processing and application of data, and break the data island of government departments, financial institutions, data service providers and credit investigation institutions. Among them, centralized database is the core of centralized collection and processing of credit information, and channel information sharing system provides query channels for information that is not suitable for centralized collection. The two methods are combined to connect data sources through standardized interfaces, publish information sharing directories and interfaces, query authority control and authorization management, query statistics and billing, so as to make the big data credit investigation platform the general hub of information collection and sharing.

(2) Data mining. The value of data lies in its application. The big data credit investigation platform can establish functional modules such as data cleaning, big data processing, machine learning, model verification, credit portrait, credit early warning and knowledge map, and promote professional credit investigation agencies to combine multi-dimensional data with technology and models to mine data value for business innovation at a marginal cost approaching zero, provide financial institutions with accurate and efficient information flow, capital flow and other diversified and customized services. On the premise of information security and user privacy protection, it can also help financial regulatory authorities make rational use of internet financial transaction data such as payment and lending and non-financial data such as telecommunications and transportation for comprehensive analysis, use regulatory technology to build a visual capital transaction map, improve the accuracy and coverage of suspicious transaction monitoring, and provide accurate reference for credit delivery, realize the anti money laundering monitoring function.

(3) Data transactions. Relying on blockchain technology, the big data local credit investigation platform can adopt effective data collection, reporting, management and analysis processes to promote data sharing and data governance, and feed back the rights and interests of data sharing to platform construction participants, so that all parties can receive and share the consideration or bonus generated by data integration while sharing data, so as to realize the confirmation, pricing and transaction of data, explore the feasibility of "data capitalization", promote the establishment of innovative factor trading markets such as big data trading center, and realize the circulation and transaction of digital assets on the Internet.

2.3 The big data credit investigation platform is a resource allocation platform based on financial scenario applications

As the basis for the application of financial information tools, the big data credit investigation platform uses the mature digital technology platform to build a new financial technology chassis, form "big technology finance", precipitate data through payment, social networking, e-commerce and other scenarios, and use big data and artificial intelligence to build a new digital risk control mode, expanding the radius of financial services to small and micro enterprises, self-employed households, farmers and other long tail customers whose traditional technical conditions and service modes can not cover or provide insufficient services can effectively improve the inclusive nature of financial services. Financial institutions embed financial services into various business processes of platform participants through the platform to achieve accurate positioning of potential customers, which not only reduces transaction costs and improves risk pricing ability, but also plays the function of returning to the essence of finance. Especially for small and medium-sized financial institutions, the big data credit investigation platform opens digital financial technology to them in a product-oriented way, which can reduce R & D costs, accelerate the application of digital financial technology, and help small and medium-sized financial institutions improve their ability to accurately identify reasonable financing needs.

3. Construction status of big data credit investigation platform in domestic urban agglomerations

3.1 The Yangtze River Delta region

The Yangtze River Delta region is the first Regional Credit Cooperation Demonstration Zone in China. In June 2020, the Yangtze River Delta credit investigation alliance was established and established the Yangtze River Delta credit investigation chain application platform. Through the deep integration of blockchain technology and credit investigation system construction, it provides credit investigation services with full life cycle services such as data and credit investigation report transmission, business process certificate storage, access control, privacy protection, security sharing and supervision traceability, it realizes the connectivity, traceability and supervision of inter agency enterprise credit investigation report information, helps to protect data privacy, promotes the development of guarantee free and mortgage free credit loan business of financial institutions, improves the financing availability of small and micro enterprises, and alleviates the difficulties of enterprise financing, bank risk control and management by regulatory authorities.

3.2 The Pearl River Delta region

The Pearl River Delta is one of the most active regions in China. The private economy is developed and the financing demand is strong, which gives birth to a large number of demand for enterprise credit investigation. In April 2021, the Pearl River Delta credit investigation chain was established. Relying on the "Guangdong credit and finance" credit investigation platform, it realized the interconnection of credit investigation infrastructure in the Pearl River Delta, established a credit information sharing mechanism, and displayed diversified enterprise information including basic information, business information, credit enhancement information, warning information and asset information, provide commercial banks with a more comprehensive "portrait" of small and micro enterprises, provide more data support for banks to serve the financing of small and micro enterprises, and solve many problems existing in the process of commercial banks issuing loans to small and micro enterprises, such as few data sources, inconsistent data formats, inconsistent authorization standards, backward query methods and so on.

3.3 Beijing-Tianjin-Hebei region

2021 in July, the credit investigation chain platform of Beijing-Tianjin-Hebei region was established to apply the blockchain technology to the credit investigation field. Relevant government

departments participated in the construction as data source units, transmitted and shared data in real time, safely, multi-level and multi-dimensional, so as to realize the interconnection of enterprise related credit information in Beijing, Tianjin and Hebei and the orderly flow of data element resources in the region. At the same time, establish a scientific and reasonable credit investigation product and service price system, unify service and data sharing standards, integrate industrial data resources, provide high-quality credit investigation services for the coordinated development of Beijing, Tianjin and Hebei, support the financing of small and micro enterprises, effectively alleviate the difficulties of bank risk control and management by regulatory authorities, and enhance the ability of financial governance.

3.4 Chengdu-Chongqing Economic Circle

At present, Sichuan has established a unified "Tianfu credit" platform across the province, the special network has access to all 1021 banking institutions, connecting government departments, financial institutions, credit investigation institutions and the corporate public, and realizing the "one-stop" sharing of 57 categories of 1.5 billion data, such as enterprise basic data, invoices, electricity, real estate transactions, provident fund and court decisions. Credit reporting institutions provide credit reporting, credit scoring, anti fraud and other credit reporting products through the platform. Financial institutions and credit reporting institutions realize data interaction and big data risk control joint modeling, and call credit information query through the platform for a total of 2.6668 million times. In addition, the platform launched more than 1650 credit products of banks, and linked with government departments at all levels to create embedded and procedural online credit system construction application scenarios such as financial cultivation and red list enterprise selection. The platform also cooperates with Chongqing to build financial credit information comprehensive service zone, so as to realize the overall radiation of the platform function to Chengdu and Chongqing region.

4. Policy suggestions on promoting the development of big data credit investigation platform

The establishment of big data credit investigation platform can, to a certain extent, make up for the lack of science, technology and information elements in financial development, and help regional financial development to achieve complementarity and collusion. All urban agglomerations have issued relevant policies to build big data credit investigation platforms with information sharing as the core. However, the development level of each platform is uneven, the leading departments and operation modes are different, and the data standards are inconsistent. It does not realize the overall pattern of interconnection and radiation to the regional economy. It is easy to form an information island, and there are problems such as repetitive construction and poor application effect.

(1) Strengthen the mining, sharing and utilization of public credit information. It is suggested to introduce special policies to promote government departments with primary data sources to open data on the platform, make use of the characteristics of decentralization, tamper proof and traceability of blockchain technology, eliminate the concerns of relevant departments about sharing data, avoid information islands, change the information asymmetry between banks and enterprises, make credit become the "hard currency" of the market, and solve the financing difficulties of small and micro enterprises, fully meet the changing financing needs of small and micro enterprises.

(2) Promote the information sharing and overall management mechanism of financial institutions. It is suggested to use the latest financial technology means to form a unified data transmission encryption standard, credit information sharing interface call standard and financing docking interface interaction standard, realize the sharing of cross regional government financial data through the network connectivity and policy cooperation of local big data credit investigation platforms, and strive to realize the interconnection of big data credit investigation platforms in the country within 3-5 years.

(3) Improve the credit financial service ecology. It is suggested to make use of the function of big data platform to promote financing docking, conduct real-time monitoring, statistics and Analysis on

the real credit information of financial institutions and enterprises, collect enterprise feedback and implement credit cultivation. At the same time, we will promote credit investigation institutions to use the platform to enrich data and financial science and technology resources to innovate credit investigation products. Financial institutions will innovate and incubate financial products serving small and micro private enterprises through the platform, build an "Internet +" credit system serving private small and micro + individual industrial and commercial households, and form a financial ecosystem of "credit + policy", boost the efficient flow of financial resources in the factor market in the twin city economic circle.

References

[1] Pian Yuanyuan, Xie Yu. Construction of multi platform Internet credit investigation system based on blockchain technology [J]. Credit investigation, 2020, (4): 22-26.

[2] Talin, Li menggang. Analysis on the application prospect of blockchain in the field of Internet financial credit investigation [J]. Journal of Northeast University (SOCIAL SCIENCE EDITION), 2018, (9): 466-474.

[3] Ju Chunhua, Zou Jiangbo, Fu Xiaokang. Design and Application Research of big data credit investigation platform integrated with blockchain technology [J]. Computer science, 2018, (11): 522-526, 552.

[4] Yang Yuyan, Tian Kun, Liu Yuanzhao. Theoretical and practical exploration of financial technology sharing platform based on alliance chain [J]. Credit investigation, 2021, (6): 64-68.