

Research on Credit Regulation in the Platform Economy in the Era of the Digital Economy

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Abstract. In the era of the digital economy, strengthening credit regulation in the platform economy is a crucial force in enhancing the governance system of the digital economy and promoting its high-quality development. Simultaneously, it represents a vital aspect of modernizing market supervision in the digital economy. Currently, credit regulation in the platform economy faces challenges such as platform companies illegally obtaining user data, the misuse of algorithmic technologies, and shortcomings in the judiciary's credit supervision, including regulatory lag and insufficient digitalization. The effectiveness of regulation awaits enhancement. With the rapid development of the digital economy, reinforcing credit regulation in the platform economy requires platforms to enhance their self-regulation to advance their own credit-building capacity. It also demands regulatory authorities to strengthen their digital monitoring capabilities to improve regulatory efficiency. Furthermore, it necessitates the active involvement of various regulatory forces such as industry self-discipline, third-party credit service agencies, and public participation to promote the formation of a new pattern of diversified governance.

Keywords: Digital economy; Platform economy; Credit regulation

1 Introduction

The digital economy represents a new economic form following agricultural, industrial, and informational economies. It centers around data as a crucial production element, utilizes network infrastructure as a pivotal carrier, and relies on modern information and communication technologies as its core driving force, reshaping economic and social development and governance models^[1]. Since the 18th National Congress of the Communist Party of China, there has been significant emphasis from both the Party and the state on developing the digital economy, elevating it to a national strategy, and deploying measures at the national level to propel its growth.

Currently, China's digital economy is undergoing rapid expansion. However, the virtual, borderless, fluid, and integrative nature of the digital economy also introduces profound uncertainties during its development^[2]. This, in turn, generates a series of complex legal and regulatory issues related to data security, cyber security, and privacy protection. To address

these new regulatory challenges encountered in the development of the digital economy, the State Council issued the “14th Five-Year Plan for the Development of the Digital Economy,” proposing the “establishment of a sound and comprehensive governance system for the digital economy, strengthening credit-based market supervision in the digital economy, establishing and improving credit archives, and promoting credit sharing and governance through government-enterprise cooperation and industry collaboration.”

The digital economy primarily manifests through network platforms, with platform companies acting as organizers and coordinators within this landscape. In the era of the digital economy, platform companies wield extensive data assets and possess characteristics of broad connectivity. Their permeating influence across various aspects of economic and social spheres underscores their increasing necessity and importance in legal oversight within the digital economy. Consequently, as the digital economy rapidly advances, enhancing credit regulation in the platform economy becomes not only a crucial force in improving the governance system of the digital economy and promoting its high-quality development but also a pivotal representation of modernizing market supervision in the digital economy.

2 Basic theory of credit regulation

Credit regulation is a societal co-governance system guided by modern social governance and credit management theories, grounded in legal standards and regulations, relying on information (data), supported by digital technology, and employing information sharing, tiered classification, and precise intelligent supervision as means, involving the participation of diverse entities^[3]. Data compliance legislation and standards on the open sharing of public data are steadily emerging and regulated with the introduction of relevant data laws and regulations.

Compared to traditional regulatory models, the characteristics of credit regulation are as follows: firstly, it employs credit and legal tools as fundamental regulatory instruments and breaks away from the drawbacks of segmented and territorial regulation in regulatory models, possessing institutional advantages in all-encompassing and full-process supervision^[4]. Secondly, it achieves more refined management by adopting a corporate credit risk grading management system. Simultaneously, through close integration with the “double random, one public” supervision, it further implements differential regulation. This entails reasonably determining and dynamically adjusting inspection proportions and frequencies based on the classification of enterprise credit risks, thereby enhancing regulatory efficiency, social governance capabilities, and levels. Thirdly, it consistently upholds an inclusive and prudent regulatory philosophy, adhering to the principle of balancing standardized management with encouraging development. It emphasizes achieving a dynamic equilibrium between regulatory goals and promoting the innovative development of platform enterprises to foster market vitality and facilitate the healthy development of the platform economy.

In recent years, China has continuously improved its regulatory mechanisms through measures such as transitioning from annual inspections to annual reports, information disclosure, “double random” inspections, the establishment of lists of abnormal operations and “blacklists,” collaborative supervision and joint penalties, and social co-governance. These measures continuously enhance a new regulatory mechanism based on “double random, one

public” supervision as the primary means, supplemented by focused supervision, and built upon credit regulation. Strengthening credit regulation for platform enterprises is conducive to effectively regulating their untrustworthy behavior. Simultaneously, it aids in improving service quality, enhancing competitiveness, and maintaining a fair competitive market environment.

3 Necessity of reinforcing credit regulation in the era of the digital economy

In the era of the digital economy, the platform economy is rapidly expanding, encompassing various sectors such as transportation, healthcare, education, tourism, and finance, and disrupting the traditional market’s business models and order. Compared to traditional economies, the platform economy, as a new form of business organization, can fully harness the potential of data, facilitating faster and more convenient transactions and providing products and services that enhance people’s daily lives. However, on the other hand, with the widespread application of emerging technologies like big data, artificial intelligence, cloud computing, and blockchain in the development of the platform economy, adverse occurrences such as platform companies illegally obtaining user data, abusing algorithmic technologies, and harming users’ legitimate rights and interests while disrupting the operational order of the platform economy are increasingly prevalent. Confronted by these new regulatory challenges, traditional regulatory systems and methods are no longer adaptable to the developmental needs of the platform economy. The limitations of traditional governance models are becoming more pronounced, gradually lagging behind the pace of technological advancements and business model innovations.

Traditional regulatory models primarily adopt a top-down “command-and-control” approach characterized by static one-way measures. These measures intervene in the market through unilateral mandatory regulatory actions, lacking dynamic, effective, and equal dialogue and communication with the regulated entities, thereby hindering the stimulation of proactive compliance in business operations [5]. In terms of regulatory methods, traditional oversight emphasizes pre-entry approval over ongoing and post-event supervision, involving the legislature’s prior establishment of explicit rules and their strict enforcement by administrative bodies. However, this approach might lead to cumbersome approvals, excessively high market entry thresholds, and foster overregulation. Therefore, traditional regulatory models are both challenging to align with the development patterns and characteristics of the platform economy and intensify the mismatch and disharmony between market innovation and regulation. They also struggle to fundamentally rectify the untrustworthy behaviors of platform enterprises.

Conversely, within a credit regulatory model, the evaluation of platform enterprise credit is a dynamic process rather than a fixed assessment. Evaluated entities can influence the evaluation outcome through their behavior, forming a positive feedback mechanism and inherently contributing to the construction of a credit order for platform enterprises. Simultaneously, this demonstrates the flexibility advantage of credit regulation, better coping with the uncertainties brought about by the rapid development of the platform economy and enhancing regulatory efficiency.

4 Challenges faced in strengthening credit regulation in the era of the digital economy

In the era of the digital economy, data as the fifth production factor continues to gain significant commercial value, offering substantial economic worth to platform enterprises and becoming a crucial asset for them. Faced with the immense lure of the benefits derived from data resources, numerous platform enterprises frequently disrupt the balance between business interests and social responsibilities. They attempt to unlawfully obtain user data to secure resource advantages and commercial benefits for themselves, presenting new challenges for credit regulation in the platform economy.

Firstly, platform enterprises unlawfully obtain user data. By selecting 5 major application categories in mainstream application stores to search for APP developed by platform operators, and combining with the special governance activities on APP's illegal collection and use of personal information carried out by various provincial Cyberspace Administrations in 2023, six typical APPs in each category were selected as research samples to be analyzed (as shown in Table 1). After that, 30 typical APPs were used as samples to analyze and summarize the different situations involved in their infringement of users' rights and interests, and it was found that the current phenomenon of illegal acquisition of user data by platform operators is prominent, including collecting personal information without user consent, collecting personal information beyond the required scope and fail to disclose the purpose, method, and scope of collecting and using personal information (as shown in Table 2).

Table 1. 30 typical APP samples.

App category	Sample APP and version
Education	ZhuMa(6.7.1), Art Student(8.0.2), Whale XiaoBan(2.2.1), Palfish(3.2.60910), ZiKaoWanTiKu(5.6.1.0), Sunflower Reading(3.9.3)
Books	KuaiKan Cartoon(7.53.0), DouDingShuFang(4.5.0), MiDu Speed Edition(2.10.0.0116.1200), TXT Full Free Novel(2.0.5), Free Novel Area(5.1.4.3302), HuaBen Novel(6.24.0)
Travel	Aranya(3.6.983), GaoLvZongHeng(2.9.5), Super8 Hotel(5.2.7), iGola QiE Travel(5.1.0), ZuiMeiQingHai(1.0.62), KongTie Housekeeper(5.3.5.6)
Lifestyle	TianPing Sunshine(2.0.50), LeFull Apartment(7.6.4), TongBan GrowUp(1.2.2), DeXin Cinema(2.1.3), BingFenWanXiang(1.4.56), GuangDa Cloud Livig(1.1.3.0)
Entertainment	DaDi Cinema(8.7.3), Poly Ticket Service(3.12.5), YouPiao(3.3.9), E-Ticket Movie(2.2.4), Pacific Cinema(6.1.5), Ticket Planet(3.33.6)

Table 2. 30 typical APPs infringing on users' rights and interests.

Violation of users' rights and interests	Number of APPs	Proportions
Collecting personal information without user consent	14	46.67%
Collection of personal information beyond the required scope	13	43.33%
Fail to disclose the purpose, method, and scope of collecting and using personal information	11	36.67%
Risk of arbitrary backup of application data	6	20%
Difficulty in canceling accounts	6	20%

Force users to use the directional push function	4	13.33%
Frequent self-starting and associated startup of apps	3	10%

Initially, this occurs by collecting personal information without user consent. For instance, they start gathering personal information or open permissions to collect such data without user consent, or they coerce users into granting data collection permissions. If users decline to provide non-essential personal information or open unnecessary permissions, the APP denies access to relevant business functionalities. Secondly, they collect personal information beyond the required scope. This often involves violating necessity principles, collecting personal information types, or opening permissions for personal information collection irrelevant to existing business functionalities. For instance, due to the lack of standardized management in third-party SDK permissions, mobile operating systems do not provide separate third-party SDK permission management mechanisms but rather allow SDKs to directly call existing app permissions. Some SDKs exploit this by mandating apps to bundle declared permissions excessively or by excessively collecting personal information through app permissions^[6]. Lastly, they fail to disclose the purpose, method, and scope of collecting and using personal information. For instance, they might not disclose information collection and usage rules publicly or omit indicating all the privacy rights they are seeking from users. Moreover, when requesting permissions to gather personal data like user ID numbers, bank accounts, or location data, they might fail to synchronize with users regarding the purpose or provide unclear or challenging-to-understand purposes.

Secondly, platform enterprises abuse algorithmic technology to conduct “price discrimination based on big data.” These enterprises often collect and analyze users’ browsing histories, consumption habits, shopping preferences, price sensitivities, payment willingness, and more using techniques like big data analysis ^[7]. Ultimately, they create unique and precise user profiles, employing them to devise distinct pricing strategies and mechanisms, implementing differential treatment accordingly. Although Article 24 of the “Personal Information Protection Law” imposes corresponding regulations on handlers of personal information using this data for automated decision-making—ensuring transparency, fairness, and prohibiting unreasonable discriminatory treatment in transaction prices or other transaction conditions—the inherent technical, specialized, and complex nature of “price discrimination based on big data” renders it increasingly concealed and intricate. This issue widely prevails across various internet platform enterprises, such as in the food delivery, hotel, and e-commerce industries, among others. At present, with the advancement of technological means and the diversification of marketing methods, platforms can generate various coupons and price combinations randomly based on user profiles and algorithms. Once the algorithm identifies a consumer as a “regular customer,” it might eliminate new customer discounts or charge different prices based on the consumer’s payment willingness. In some cases, these platforms might even charge higher prices to “regular customers.” ^[8]

Thirdly, there exists a lag in credit regulation within the platform economy. Presently, due to the significant uncertainties and complexities inherent in the rapid development of the platform economy, especially with the continuous emergence of new formats and fields, these nascent areas are still in developmental stages. Potential credit risks have not been entirely exposed, rendering a considerable portion of existing legal rules inadequate to address the new regulatory challenges they pose. Moreover, the formulation of relevant regulatory standards at

the legal level often exhibits a certain lag, unable to respond promptly or flexibly to regulatory issues, consequently leading to gaps in legal oversight. As a result, regulatory authorities lack effective regulatory bases and struggle to grasp regulatory boundaries while conducting oversight activities. This often places them in a passive position, presenting difficulties in law enforcement practices within credit regulation. Additionally, in current regulatory practices, although regulatory authorities can prompt platform enterprises to enhance industry self-discipline and operational norms through conducting specialized rectification activities, this form of “campaign-style law enforcement” can only address some urgent problems faced by the development of the platform economy in the short term. However, it comes with drawbacks such as enforcement uncertainty and short-term effectiveness^[9].

Fourthly, the level of digitization in credit regulation within the platform economy requires improvement. Currently, the rapid evolution of digital technologies outpaces the upgrades in regulatory technologies. Regulatory authorities often lack the full utilization of digital technologies, which can become a bottleneck restraining the efficacy of regulatory efforts, especially concerning the aggregation and quality of shared credit information. In regulatory practices, the credit information platforms established by various departments exhibit a fragmented nature, where the same entity might have different credit profiles based on data from different platforms. This fragmentation increases the difficulty of interdepartmental credit data sharing and may result in regulatory gaps. For instance, in the case of joint rewards and penalties through red and blacklists, although numerous memorandums have been signed at the national level, they often face challenges in implementation. The sharing of departmental credit data primarily relies on traditional means such as sending letters, making it difficult to dynamically update credit information and lacking effective constraints. Consequently, it becomes challenging to conduct targeted regulation on key regulated entities^[10].

5 Strategies to strengthen credit regulation in the platform economy in the era of the digital economy

From the perspective of platform enterprises: Enhance the internal capacity for credit development within platform enterprises. Platform enterprises should establish specialized units responsible for managing the development of enterprise credit. For instance, it involves forming dedicated teams such as the Security Compliance and Data Security teams. These teams could introduce a series of security management systems covering various aspects like hierarchical classification management of user personal information and information security protection standards. Regular assessment and inspection of relevant technical measures are crucial to bolster risk monitoring and emergency response capabilities. Additionally, providing users with easily accessible complaint reporting mechanisms within their products or services and optimizing channels for user feedback is essential to enhance service quality. Regularly organizing training sessions on relevant laws and regulations helps continuously strengthen credit awareness and social responsibility. Gradually enhancing the level of enterprise credit development will facilitate the sustainable and healthy growth of platform enterprises.

From the perspective of regulatory authorities: Emphasize the supportive role of digital technology. Firstly, efforts should be made to actively utilize digital technologies such as big data and cloud computing to further effectively explore credit information. This includes enhancing the quality of collecting basic information on credit subjects, law enforcement supervision and disposal information, joint punishment for dishonesty, etc. It aims to create standardized and unified credit profiles, as well as promote timely interconnection and mutual recognition of clues related to dishonest subjects and their processing results. Continuously improve the mechanism for collecting and sharing credit information. Secondly, it is imperative to integrate digital technologies actively to conduct an in-depth analysis of relevant credit data. This will assist regulatory authorities in enhancing dynamic monitoring and risk alert capabilities. This behavior, in turn, enables the adoption of differential regulation based on the results of credit risk classification. It advances the precision of monitoring the credit status of market entities, ensuring timely warnings and reasonable reminders to effectively prevent the expansion of credit risks when dealing with potential illegal and dishonest risks. Finally, the top-level design of national credit legislation should be accelerated and improved, and a sound system of rules and regulations should be established for the credit supervision of the platform economy in the era of the digital economy, with clear regulatory boundaries and strengthened rules and guidelines. On the one hand, the relevant laws and regulations should be regularly evaluated and the applicability of the previous laws and regulations should be adjusted and improved accordingly, so as to enhance the flexibility of supervision; on the other hand, the key regulatory issues highlighted during the development of the platform economy should be actively paid attention to, and relevant standards and norms should be introduced in a timely manner in accordance with the actual needs, so as to improve the foresight of the legislation and cope with the regulatory gaps and promote the legal system and regulatory rule system for the credit supervision of the platform economy.

From the perspective of multiple participants: Actively introduce diverse regulatory entities. Firstly, strengthening industry self-discipline is a necessary complement to credit regulation in the platform economy. Industry associations should actively formulate industry standards and norms, self-discipline conventions, take integrity as an important content of the rules and regulations of the industry and make clear the relevant credit system as well as the reward and punishment mechanism within the industry, and supervise and regulate the business behavior of platform enterprises by establishing members' credit records, carrying out credit commitment, credit training, integrity publicity, integrity initiatives, and other measures. Secondly, it bears significance to leverage the professional expertise of third-party credit service institutions in credit information collection, processing, and application. This cooperation involves aspects like credit record aggregation, credit information sharing, big data analysis, credit risk alerts, scrutiny of dishonesty cases, and tracking and monitoring of dishonest behaviors in collaboration with regulatory authorities. By accelerating the establishment of third-party credit institutions within digital service platforms, standardizing platform credit technology identification and authentication processes, and issuing credit identification certifications, users can promptly and accurately assess the credit status of platform enterprises, fostering an environment conducive to responsible platform conduct^[1]. Finally, emphasizing public participation, regulatory authorities should enhance the breadth and transparency of relevant credit information disclosures, actively expand public oversight channels, and establish a robust complaint mechanism. Timely resolution and feedback on complaints ensure substantive public participation.

6 Conclusions

In the era of the digital economy, enhancing credit regulation in the platform economy requires improvement in several aspects: Platform enterprises should strengthen their own credit development by establishing specialized units, as well as regularly assessing and inspecting relevant technical measures, among other initiatives. Regulatory authorities should actively leverage digital technology to enhance regulatory efficiency, at the same time, they should also accelerate the improvement of the top-level design of national credit legislation, establish a sound system of institutional rules for the credit supervision of the platform economy in the era of the digital economy, clarify the boundaries of supervision, and strengthen the guidelines of the rules. Furthermore, it's crucial to actively involve industry associations, third-party credit service institutions, the public, and various other entities in public-private collaborative governance. This collaborative effort aims to synergistically strengthen credit regulation in the platform economy, fostering new advantages for China's digital economy.

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