

## A Study on the Legal Implementation Path for Anti-Monopoly in China's Platform Economy

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### Abstract

As an important component of the digital economy, the platform economy exhibits characteristics such as economies of scale, network effects, cross-boundary effects, and two-sided market nature, thereby creating substantial value for society. Simultaneously, however, it also engenders monopolistic problems including abuse of market dominance and stifling of innovation and competition. Currently, as a typical exemplar of the digital economy, the platform economy possesses a quintessential two-sided market nature, while monopolistic behaviors within the platform economy—such as differential treatment, exclusion of competition, restriction of competition, and suppression of data portability—have resulted in a scenario where platform enterprises monopolize the platform market. Platform economy monopolies have triggered issues of digital justice, including disorder in market fair competition, data monopolies, rampant big data-based price discrimination, and unequal income distribution. This not only undermines the fair competition order in the platform economy market and infringes upon citizens' digital rights and interests, but also poses a grave threat to China's digital security and digital sovereignty. This paper proposes to achieve effective governance of platform monopolistic behaviors and promote the healthy, orderly, and high-quality development of China's platform economy through multiple avenues: at the legislative level, by improving the existing antitrust legal system, refining supporting measures for regulating monopolistic behaviors in the platform economy, and enhancing relevant provisions concerning platform economy monopoly litigation in China; at the law enforcement level, by innovating digital law enforcement tools and utilizing digital technologies such as blockchain and big data for efficient antitrust enforcement; at the judicial level, by fully leveraging judicial safeguarding effectiveness, strengthening inter-departmental coordination and cooperation capabilities as well as international exchange and cooperation, reinforcing platform enterprises' primary responsibility and behavioral norms, and increasing penalty severity; and at the regulatory level, by constructing a diversified, multi-actor dynamic regulatory

system.

## Full Text

# Research on the Legal Realization Path of Anti-monopoly in China's Platform Economy

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## Abstract

Platform economy, as an important component of the digital economy, possesses characteristics such as scale effects, network effects, cross-border effects, and bilateral market features, creating enormous value for society. However, it also exhibits monopoly problems such as abusing market dominance and stifling innovative competition. Nowadays, as a typical representative of the digital economy, the platform economy features a typical two-sided market, while monopolistic behaviors in the platform economy—including differential treatment, exclusion and restriction of competition, and suppression of data portability—have led platform enterprises to face market monopolization. Platform economy monopoly has triggered digital justice issues such as disorder in market fair competition, data monopoly, proliferation of big data price discrimination, and unequal income distribution, which not only damages the fair competition order of the platform economy market and harms citizens' digital rights and interests, but also seriously threatens China's digital security and digital sovereignty. This paper proposes to improve the existing anti-monopoly legal system from the legislative level, perfect supporting measures for regulating platform economy monopoly behaviors and relevant provisions on platform economy monopoly litigation in China; at the law enforcement level, innovate digital law enforcement methods, utilize digital technologies such as blockchain and big data for efficient anti-monopoly enforcement; at the judicial level, give full play to judicial safeguards, strengthen cross-departmental coordination and cooperation capabilities and international exchange and cooperation levels, reinforce platform enterprises' primary responsibilities and behavioral norms, increase punishment intensity; and at the regulatory level, construct a diversified, multi-subject dynamic regulatory system, thereby achieving effective governance of platform monopoly behaviors and promoting the healthy, orderly, and high-quality development of China's platform economy.

**Keywords:** platform economy; anti-monopoly; hazard presentation; legal response

## I. Introduction

In the digital era, the rapid development of various digital technologies—big data, blockchain, internet, IoT, cloud computing, instant messaging, artificial intelligence, etc.—has triggered the reorganization of social resources, overturned traditional market structures and industry operation models, and enabled the swift rise of the digital economy. As an important component of this landscape, the platform economy (also referred to as “internet industry,” “internet platform,” or “digital economy” in relevant academic literature and normative documents) has emerged accordingly. Today, platform economy has become a critical link for achieving high-quality development in the economic domain and even a strategic commanding height in global digital economy competition.

In recent years, numerous policies issued intensively by China have demonstrated that platform economy has become a key element in building “Digital China.” Platform economy has long been integrated into people’s daily lives, relating to the most fundamental livelihood issues. In shopping, entertainment, payment, food delivery, transportation, and other aspects, people have experienced tremendous convenience brought by the digital economy. Platform economy undoubtedly drives employment and entrepreneurship by providing more job opportunities, expands consumer markets by meeting personalized demands of consumer groups, and innovates production models through its high degree of digitization, networking, and intelligence that enables resource sharing. All these highlight the advantages of platform economy. However, every coin has two sides. Platform economy monopolistic behaviors have led to endless digital justice issues such as big data price discrimination, “choose one of two platforms” (where platforms, as intermediaries for transaction parties, force or restrict other platforms’ transaction behaviors for the same goods or services through agreements or technical means), and data insecurity, causing severe social distribution inequality and seriously hindering the realization of common prosperity for all people.

According to the “China Anti-monopoly Law Enforcement Annual Report (2021)” released by China’s State Administration for Market Regulation, China investigated and handled 175 monopoly cases in 2021, an increase of over 50%, with fines exceeding 20 billion yuan. The report emphasized strengthening anti-monopoly regulation in the platform economy sector, and commercial giants Meituan and Alibaba Group, involved in “choose one of two platforms” and anti-monopoly violations, could not escape legal sanctions. On January 31, 2021, China issued the “Action Plan for Building a High-Standard Market System,” which further clarified “improving the fair competition system” and, for the first time, systematically constructed the logical framework for perfecting the fair competition system. Meanwhile, strengthening anti-monopoly was also included as one of the eight major tasks in China’s 2021 economic work, requiring the improvement of legislative standards for identifying platform monopolistic behaviors. On February 7, 2021, the Anti-monopoly Commission of the State Council issued the “Anti-monopoly Guidelines for the Platform

Economy Sector,” making provisions to varying degrees on seven aspects: basic principles of China’s platform economy anti-monopoly regulation, monopolistic agreement behaviors, platform market dominance, “choose one of two platforms” and “big data price discrimination” monopolistic behaviors, business concentration, and exclusion or restriction of competition. The 20th CPC National Congress report in 2022 explicitly proposed strengthening anti-monopoly and anti-unfair competition to regulate the healthy development of capital. The Central Economic Work Conference in mid-December 2022 clearly stated that the digital economy needs vigorous development and that the normalization level of anti-monopoly regulation needs improvement. In March 2023, the First Session of the 14th National People’s Congress continued to emphasize the importance of continuously developing the digital economy with high quality and improving the normalization level of regulation, explicitly expressing strong support for platform economy development. Obviously, China’s platform anti-monopoly cases are showing a trend of complexity and diversity, requiring strong national governance.

However, China’s existing legal provisions for identifying platform monopolistic behaviors are relatively macroscopic and mostly principled, unable to adapt to specific monopoly cases in the platform economy sector. The rapid development of platform economy has brought new competition issues and anti-monopoly legal regulation problems, posing unprecedented new challenges to anti-monopoly enforcement. The governance of platform economy worldwide is accelerating into a reconstruction period, which will directly affect national core competitiveness and determine the future development trend of the digital economy. The role of anti-monopoly law cannot be underestimated. It is called the “economic constitution” because it plays a decisive role in maintaining market competition freedom, safeguarding market fair competition order, and perfecting market economic structure. To address the potential anti-monopoly crisis triggered by current malicious competition on platforms, relevant Chinese institutions should promptly improve the criteria for determining platform economy monopolistic behaviors, promote multi-departmental coordination, and drive platform economy toward high-quality development.

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## II. Definition and Generation Logic of Platform Economy Monopoly

### (一) Connotation and Characteristics of Platform Economy

“Platform refers to a venue where buyers and sellers engage in economic activities such as product, service, and information exchange based on mutual demand”. Platform economy, as a product of the digital economy era, is a typical representative and inevitable result of digital economy development. Regarding the definition of platform economy, although no unified conclusion has been formed, the various definitions are largely similar. Generally, platform economy refers to

economic models that rely on platforms. In February 2021, the Anti-monopoly Commission of the State Council issued the “Anti-monopoly Guidelines for the Platform Economy Sector,” defining platform economy as “a business organizational form where multiple interdependent and mutually influential interactive parties jointly create value under rules provided by a specific carrier through internet information technology.” Currently, the widely recognized academic definition is: “Platform economy is a new economic system composed of economic activity units based on digital technology, driven by data, supported by platforms, and coordinated by networks; it is a general term for various economic relations based on digital platforms”. Among these, data is the key production factor of platform economy, new-generation information technology is the core driving force, network information infrastructure is the important support, and internet platforms are the main carriers. In summary, this paper argues that platform economy refers to a new economic model that relies on three basic elements—cloud, network, and terminal—while utilizing modern digital technologies such as big data analysis, blockchain, and algorithmic collusion, characterized by bilateral or multilateral features, with platforms as intermediaries for transactions or services. Evidently, platform economy differs from traditional economic operation models; it is a product of deep integration between platforms and networks, a brand-new resource allocation method that can achieve more intelligent supply-demand matching at lower costs.

Platform economy differs from traditional economy, which has cumbersome intermediate links, single industrial models, and is a typical single-sided market economy. Platform economy, relying on platforms, eliminates relatively complex intermediate links, directly connects supply and demand parties, changes the traditional closed-loop production-sales model, and transforms into a user-participation-based model that greatly satisfies users’ personalized needs and achieves optimal resource allocation. Platform economy has been unique since its formation, with its typical characteristics mainly manifested as follows:

First, **scale effect**. Traditional economic models are easily constrained by various factors, especially time-space and geographical limitations, making large-scale development difficult. There is a misconception here: many people believe that unfair competition tends to occur only after platforms become large. In reality, small platforms also have unfair competition problems. Just as tall trees catch the wind, society pays more attention to large platforms, while small platforms are easily overlooked by the public, thus creating the misconception that “big is bad.” However, anti-monopoly does not mean “big is bad”. Since large platform enterprises control more resources, they can obtain data information at lower costs and are more likely to annex or squeeze out small and medium-sized platform enterprises, forming super-large platforms.

Second, **network effect**. Platform economy has network externality, specifically meaning that larger platforms are more likely to create greater intermediary value for users. That is, the more buyers participating in the platform, the more business opportunities and higher potential profits for merchants; and

the more sellers on the platform, the more choices for buyers and the easier to satisfy buyer demands. Based on the cross-network externality of user quantity and types, platform scale can achieve rapid expansion. Under normal circumstances, buyers and sellers form a positive correlation, mutually beneficial. In rare cases, negative correlation may occur, but the probability is small. Meanwhile, network effects typically lead to a “winner-takes-all” outcome.

Third, **cross-border effect**. Currently, academia has not formed a unified consensus on the connotation and definition of platform cross-bordering. According to research results, platform cross-bordering generates cross-border effects, which expand the bilateral user scale of cross-border platforms and shrink that of non-cross-border platforms. The larger the user scale, the more utility obtained and the greater the profit probability. As platform economy scale continuously expands and its controlled data resources increase, platform cross-bordering phenomena are more likely to occur. Due to large platforms with abundant data and users, their resource integration capability is stronger, and platforms only need to pay minimal costs to obtain maximum economic benefits. For example, Douyin and Kuaishou platforms initially started with short videos, but as they expanded and user numbers increased, they began adding e-commerce platform functions, allowing users to buy and sell goods. Xiaohongshu provides even richer functions—besides short videos, shopping, and life sharing, it also showcases various skills for users to learn. Current platform enterprises rarely have single functions, especially large platform enterprises, most of which have achieved platform cross-bordering, which also increases the risks of platform monopoly and unfair competition.

Fourth, **bilateral market nature**. The common model of digital economy typically manifests as a platform model, which is the typical model of the digital economy era, with its main characteristic being bilateral market nature. “Bilateral market” can be understood as: on the same platform, there exist two different groups, and the platform adopts different charging standards based on the strength of network effects on each side. The higher the network effect, the lower the charge, even free or subsidized, while the side with lower network effect needs to pay more fees. The platform uses this cross-subsidization method to maximize its commercial value. The reason platforms can be free or even subsidize lies in the fact that the larger the digital scale, the lower the marginal cost. Platforms possess massive data resources and utilize their dual attributes as both enterprises and markets to promote transactions and interactions on the platform. Based on the special attributes of platforms, as providers of market platforms, they can formulate platform transaction rules themselves, acting as both “athletes” and “referees.” This dual identity makes competition behaviors within the platform difficult to be detected by the outside world.

## (二) Definition of Platform Economy Monopoly

As a new economic model, the extension of platform economy monopoly behaviors is difficult to define, especially since the edges of the extension are extremely

ambiguous. The reason lies in the controversies over traditional market definition, abuse of market dominance, and identification of algorithmic collusion agreements. Some scholars believe that “so-called ‘platform monopoly’ refers to the phenomenon that the ‘winner-takes-all’ situation prevalent in platform economy may evolve into a few monopolistic platforms maintaining the ‘winner-takes-all’ status for a long time, causing damage to healthy market competition and consumer welfare”. This paper argues that platform monopoly refers to a state where platform enterprises utilize their own data advantages and technical advantages, the special structure and unique operation mode of platform markets, as well as the network characteristics and bilateral market features of platforms themselves to form a monopolistic pattern.

Platform enterprises, as the main carriers of platform economy, play a decisive role in the rise and fall of China’s social and economic activities. Currently, the definition of monopolistic behaviors of Chinese platform enterprises still relies heavily on the existing Anti-monopoly Law. According to Article 3 of China’s Anti-monopoly Law, monopolistic behaviors generally include three types: abuse of market dominance, improper implementation of business concentration, or signing monopoly agreements. Platform enterprises differ from traditional economic models, and it is difficult to define monopolistic behaviors of platform enterprises on internet platforms. Based on algorithms, platform enterprises can evade investigations through implicit monopoly agreements. Large platform enterprises may control other platform enterprises by acquiring shares of small and medium-sized platforms, potentially involving business concentration, making existing anti-monopoly theories difficult to apply to current platform economy sectors. Based on market advantage positions, large platform enterprises may refuse other platform enterprises’ use of their own platform resources to achieve the purpose of excluding or restricting competition. Such blocking behaviors may also be suspected of monopoly, but existing systems find it difficult to identify such behaviors as illegal.

Platform economy has successively experienced three stages: free competition, primary monopoly, and dual-wheel monopoly, and continues to develop and change. Primary monopoly in platform economy mainly manifests as follows: First, data monopoly behaviors. Platforms achieve a “winner-takes-all” situation based on their own user scale, data resources, and technical advantages, combined with network externality and bilateral (or multilateral) market nature of platform economy. Platforms implement abuse of market dominance by leveraging their data monopoly advantages, mainly manifested as discriminatory pricing (platforms implement differential pricing for different users, pricing some users below cost and potential entrants above cost), bundling and tying (platform enterprises enter the tying market to exclude competitors, forcing users to must use tying services), and exclusive contracts (forcing merchants to “choose one of two platforms,” and merchants forced to take sides may need to pay high entry fees). Second, digital cartel behaviors. This new type of monopoly agreement behavior utilizes big data analysis, algorithmic collusion, and other technologies, making it extremely concealed. Third, “killer acqui-

sitions” behavior<sup>21</sup>. Large platform enterprises acquire and merge small and medium-sized enterprises to consolidate their own positions.

Currently, platform economy monopoly mainly manifests as dual-wheel monopoly, which is based on primary monopoly and conducts cross-border monopoly, further subdivided into horizontal cross-border and vertical cross-border<sup>22</sup>. First, horizontal cross-border refers to platforms 开拓新市场 based on existing user foundations by providing new products or personalized services to platform users. Second, vertical cross-border refers to platforms having dual identities—as platforms themselves and having operation rights, able to use market dominance to independently price. Dual-wheel monopoly mainly has the following characteristics: First, differential treatment. Platforms implement differential treatment for different merchants’ products, often manifested as prioritizing the display of their own products within the platform, a phenomenon also known as “self-preferencing.” Second, exclusion of competition. Exclusion of competition is usually manifested as large platforms using their data advantages to sell data resources at high prices to some operators while excluding others. Third, suppression of data portability. Platforms weaken or exclude interoperability between data, monopolize data resources, and form “data islands”<sup>23</sup>. Fourth, restriction of competition. Platforms use their advantages across multiple markets to dominate market positions and restrict competition to consolidate their advantageous positions.

### **(三) Generation Mechanism of Platform Economy Monopoly Behaviors**

“The fundamental cause of platform economy monopoly is the private occupation of big data initial resources and the private ownership of platform enterprises”<sup>24</sup>. Platform economy monopoly originates from traffic monopoly. Platforms achieve traffic monopoly advantages by expanding user scale based on the free occupation of users’ digital labor, further forming data monopoly advantages, and ultimately establishing advantageous monopoly positions. In this process, platforms implement horizontal monopoly agreements to suppress other competitors through the concealment of “algorithms,” strengthening “data monopoly advantages” and ultimately consolidating dual-wheel monopoly capabilities. With traffic and data advantages, plus algorithmic 加持, platforms can form monopoly advantages in their own fields or other related fields. Based on data monopoly islands, platforms use monopoly advantage positions to formulate exclusive standards, forming closed-loop interest advantages. The occurrence of platform economy monopoly behaviors is induced by both natural internal advantage factors and complicated external environmental factors.

Based on characteristics such as scale effects, network effects, cross-border effects, and bilateral market nature, platform economy has natural monopoly advantages. Platform scale effects and network effects enhance the competitive power of platform monopoly. Platform cross-border effects complement the business operation model based on users and data as production factors. Platform

bilateral market nature enables platform economy to form unique monopoly forms by utilizing “dual identities.” With natural advantage positions, platforms enter new fields, 开拓新市场, complete dual-wheel monopoly, bring about a series of problems such as unfair competition, and form the internal logic of platform monopoly. The early stage of platform economy is “incremental competition,” with establishing platform user foundation as the primary task, completing self-expansion under the 加持 of network effects. When user numbers reach a certain scale and become difficult to expand, platforms turn to “stock competition,” strengthening their own platforms by entering new fields or attracting users from other platforms through low prices. This is the external factor for platform monopoly generation<sup>25</sup>.

The generation of platform economy monopoly behaviors includes technical monopolies such as data monopoly, algorithm monopoly, and traffic monopoly, as well as capital monopoly, market monopoly, and production factor monopoly. Platforms have basic conditions for forming monopoly: First, powerful platform forces. Platforms have large user bases and massive user data resources, can break through traditional time-space limitations, and enable platform enterprises to obtain maximum benefits at minimal costs through their data advantages. Second, platforms have network effects that can enhance monopoly capabilities, and bilateral market structures (according to Article 2, Paragraph 1 of the “Anti-monopoly Guidelines for the Platform Economy Sector,” bilateral market characteristics are the basic economic characteristics of platforms)<sup>26</sup> can help platform enterprises create substantial value. Third, platform network externality can help platforms form scale effects and achieve “winner-takes-all.” Fourth, platforms have multilateral nature, can use the unique advantage of “gatekeepers” to isolate competitors, complete self-strengthening, internally set transaction rules, and implement personalized pricing for their own users<sup>27</sup>.

Platforms have technical advantages for forming monopoly: First, data monopoly. Platform enterprises have massive data resource foundations, can collect and analyze users’ past behaviors, complete data profiling for users, provide personalized customization, and then accurately push what users need, creating substantial profits for platforms. Second, algorithm monopoly. Platforms use algorithms, blockchain, and other technologies to isolate competitors, favor their own enterprise users, use market dominance to achieve “self-preferencing”<sup>28</sup>. Third, traffic monopoly. Platform enterprises themselves have user foundations, can leverage network interconnection advantages to collect and analyze user information, implement traffic monopoly on users, and use traffic advantages for multi-dimensional expansion to continuously strengthen this advantage. Among these, “data islands” constitute the technical root of platform data monopoly<sup>29</sup>.

Legal imperfections contribute to platform economy monopoly behaviors: First, law has lag. Existing anti-monopoly laws find it difficult to adapt to the ever-changing platform economy sector. More and more anti-monopoly cases are becoming increasingly complex and concealed. Many anti-monopoly cases in-

involve bilateral or multilateral markets, facing the dilemma of “no law to rely on.” Second, relevant legislation is incomplete, unclear, and lacks operability, while adjudicators have discretionary power, making it difficult to achieve same judgment for same cases. Third, current laws are unclear about platform data ownership. The private occupation of big data initial resources and platform enterprise private ownership are the fundamental causes of platform economy monopoly.

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### III. Typological Analysis of Harms of Platform Economy Monopoly

The development of things always follows certain laws, and platform economy is no exception. The overall development of platform economy presents a spiral upward trend, but its inherent contradictions are unavoidable. To date, it mainly presents the following harms and faces the following regulatory dilemmas:

#### (一) Seriously Damaging Market Fair Competition Order

Common monopoly phenomena in platform economy include: algorithmic control, price manipulation (price discrimination and predatory pricing strategies), collusion agreements, customer hostage-taking, and excessive mergers and acquisitions<sup>30</sup>. “Exclusive dealing” (commonly known as “choose one of two platforms”) in the platform economy sector is a typical means of coercing customers and an important manifestation of monopoly<sup>31</sup>. Platform monopoly cases emerge endlessly because platforms resort to unscrupulous means to suppress competitors in order to become bigger and stronger, sometimes forcing 入驻商家 to sign unequal agreements stipulating that merchants can only sell on their own platform and cannot sell on other platforms. This is what we know as “choose one of two platforms”<sup>32</sup>.

Platform “choose one of two platforms” is no longer surprising. The earliest “choose one of two platforms” monopoly case originated from the dispute between Tencent’s QQ and Qihoo’s 360<sup>33</sup>. In June 2019, China’s Galanz Electric Company accused Alibaba’s Tmall platform of abusing market dominance by implementing “choose one of two platforms” against the company, causing Galanz’s turnover to decline significantly. The company filed a lawsuit, which was accepted. However, limited by China’s imperfect anti-monopoly legal system at the time and courts’ lack of experience in handling anti-monopoly cases in the internet economy sector, the definition of relevant markets and abuse of market dominance was difficult to 界定, and the case was not properly resolved, ending with Galanz withdrawing the lawsuit. In 2021, the State Administration for Market Regulation made administrative penalties against Alibaba Group and Meituan for implementing “choose one of two platforms,” marking an important step forward in national anti-monopoly enforcement<sup>34</sup>.

Platform “choose one of two platforms” behaviors harm both the rights and interests of operators within the platform and the legitimate rights and interests of consumers. They not only damage the legitimate operation rights of platforms but also disrupt fair and orderly competition rules in platform markets. For consumers, it seriously infringes upon consumers’ right to choose; for other operators, it damages their right to fair competition; for the market, it damages market orderliness and stability. Platform monopolistic markets face the following regulatory dilemmas: First, the scale effects and network effects of platform economy make platform monopoly identification difficult; second, the concealment of platform economy monopolistic behaviors makes algorithmic collusion and agreement identification difficult; third, the confidentiality of platform algorithms and the difficulty of investigation and evidence collection make platform supervision and governance difficult; fourth, the definition of relevant markets and the identification of abuse of market dominance lack operable standards. Therefore, the regulation of platform monopolistic behaviors faces many dilemmas.

## (二) Seriously Threatening Digital Security

The International Organization for Standardization (ISO) defines data as “a representation of information that can be reinterpreted in a formal manner suitable for communication, interpretation, or processing”<sup>35</sup>. According to this definition, information can be regarded as the specific content of data, while data is a form of expression of information. In the legal field, jurists have gradually realized the huge potential value and research significance of legal data, thus incorporating data into legal research scope, and the term “data” frequently appears in Chinese legal provisions. The Data Security Law, implemented in September 2021, defines data as “any record of information in electronic or other forms.” However, improper use of algorithms can cause harm to personal data, which will continue to restrict the healthy and stable development of digital platform economy.

Platform economy differs from traditional economic operation models. Existing legal systems find it difficult to apply to current platform economy sectors. Platform economy relies on the internet and takes data as the key factor, while data security faces huge challenges. Personal information is easily leaked, subsequently triggering a series of social problems. For example, telecom fraud can illegally collect citizen information based on existing legal loopholes and then conduct precise fraud. Another example: in 2020, Facebook’s illegal collection of user data was identified as abuse of market dominance. This judgment by Germany’s highest court directly impacted Facebook’s business operation model of conducting precise advertising pushes through analyzing user data. The investigation began in 2016, focusing on whether Facebook abused its market advantage position by improperly using user data without user consent<sup>36</sup>. The focus of this investigation was that data factors became the core issue of German anti-monopoly cases for the first time.

In the digital economy era, data has become a key production factor and an important resource for obtaining market competitive advantages, comparable to “the oil of the twenty-first century”<sup>37</sup>. However, due to high data processing thresholds, data oligarchs monopolizing data resources, and network effects caused by user scale, data monopoly has emerged<sup>38</sup>. Improper use of data can constitute important market entry barriers, seriously threatening personal information security, disrupting market fair competition order, and even exacerbating market monopoly<sup>39</sup>. Under market monopoly, unclear data property rights not only hinder data property transactions and rights protection but also easily cause personal information abuse and even endanger national security<sup>40</sup>. Data security supervision faces the following dilemmas: First, the rights platforms enjoy over personal information and the scope of sharing are unclear, making it difficult to hold platforms accountable. Second, new types of monopoly agreements, new types of abuse of market dominance behaviors, and new types of business concentration have caused serious damage to personal information, bringing new challenges to anti-monopoly enforcement<sup>41</sup>.

### (三) Proliferation of Big Data Price Discrimination

Platform operators analyze and predict market data resources through algorithms, analyze and 预判 consumers’ payment intentions, set personalized pricing, with the typical manifestation being the “big data price discrimination” phenomenon. To improve user experience, platforms inevitably use big data technology to analyze users’ past behaviors, attach different labels to different users, which inevitably leads to different information interfaces for different users. This behavior is called “big data price discrimination.” Big data price discrimination is reflected in many aspects, such as pushing similar news or advertisements that users frequently browse according to user preferences. In shopping platforms, the “big data price discrimination” phenomenon seriously damages consumer rights and interests. For example, different consumers on the same platform face different prices for the same product, which is often characterized as price discrimination and sometimes called “big data overcharging.” This is obviously unfair to consumers, but since consumers are passive recipients of platform information, it is difficult for them to discover that they have fallen into the trap of big data price discrimination.

Big data price discrimination incidents are common: In e-commerce platforms, in November 2021, Ms. Han found when shopping on JD.com that the price when placing an order with a premium account was 25 yuan more expensive than with an infrequently used account, because ordinary accounts had available coupons. In online travel platforms, in July 2020, a diamond VIP user on Ctrip software booked a luxury room and later found it was twice as expensive as for ordinary travelers. In ride-hailing platforms, in 2020, a survey report from Fudan University showed that users with Android phones enjoyed greater discounts, while users with iPhones had significantly lower discounts than Android users. In food delivery platforms, in March 2021, complaints about “big data

price discrimination” to Shanghai’s citizen hotline increased significantly<sup>42</sup>.

Big data price discrimination essentially reflects first-degree price discrimination. Platforms collect and analyze data information saved by consumers on the internet, use algorithms and other technologies to tailor prices for each user, and complete the “price discrimination” operation. Big data price discrimination methods are highly technical, strongly concealed, and highly accurate<sup>43</sup>, making them difficult to detect. In the process of data collection and analysis, personal information of users is often collected. During this process, whether personal information is infringed upon and whether consumers’ legitimate rights and interests are damaged make it difficult to identify whether platform enterprises have violated regulations. Platforms that operate in violation of regulations should be regulated and constrained by law, but China faces many dilemmas regarding big data price discrimination: First, big data price discrimination has a wide impact range, evidence collection is difficult, existing laws have difficulty determining the constitutive elements of big data price discrimination, and the identification of violations is relatively general and vague, lacking targeted identification standards. Second, the personal information protection system is not perfect, the boundary of usage permissions between platform enterprises and users is unclear, and user personal data protection lacks effective relief channels, with imperfect ex-post relief systems. Third, there is insufficient governance of big data price discrimination tools, inadequate supervision of algorithmic technology, and a lack of a complete responsibility identification system.

#### **(四) Causing Serious Income Distribution Inequality**

On the one hand, the emergence of digital economy has 重构 ed market operation models, helping to build a sharing economy, but accompanied by brand-new social distribution methods, traditional income distribution models will face reshuffling<sup>44</sup>. The emergence of digital economy creates new economic forms, bringing a large number of new employment opportunities to society, and platform economy has had a significant impact on employment structure in terms of individual skills, industries, and sectors<sup>45</sup>. However, the development of platform economy still cannot escape the curse of the 80/20 rule. With the 加持 of platform economy, the wealth gap among residents has significantly widened, which runs counter to China’s advocacy of “common prosperity.” On the other hand, while the digital economy brings new employment opportunities, it also causes the risk of unemployment for some groups, thereby affecting social stability. Jobs with simple and repetitive work content and low technical requirements are more easily replaced by intelligent devices. The book “The Future of the Professions: How Technology Will Change Human Expert Work” predicts new trends for many professions, such as teachers, lawyers, doctors, and other professions that will be replaced by artificial intelligence machines<sup>46</sup>. If, as predicted in the book, even some high-skill jobs we consider will be replaced, some low-skill positions will be even more vulnerable. As far as China is con-

cerned, most manufacturing is at the mid-to-low end, and many positions have low requirements for workers. This group is extremely vulnerable to being replaced by intelligent machines, and these workers have no special skills, so they may face survival difficulties. To achieve common prosperity in China, the most important link should be to increase the income level of low-income groups<sup>47</sup>. Platform economy monopoly phenomena reduce workers' employment levels, affect residents' income distribution, lead to widening wealth gaps, and thus hinder the realization of common prosperity.

The new forms of labor organization in digital platforms lead to unstable employment and wages<sup>48</sup>. In the digital economy era, people can work remotely or even from home, making the boundary between work and rest difficult to divide and 变相 increasing work intensity. Currently, the protection of labor rights and interests of platform workers has become a difficult problem faced by countries worldwide. Platform economy has typical social security problems. To adapt to the changes of the times, Western countries are actively improving their national labor law systems. If bottom-level workers cannot 胜任 emerging positions or cannot obtain effective social security, they are very likely to evolve into social instability factors and even become stumbling blocks for the stable development of platform economy. In recent years, unemployed persons in some countries have not been properly resettled and compensated, populism has emerged, accelerating de-globalization, and China should learn from this experience. The digital technology behind platform economy represents a skill-biased technological progress<sup>49</sup>, meaning that some positions put forward higher requirements for workers, and only those with certain professional knowledge reserves can 胜任 emerging jobs, which will lead to skill bargaining by high-skill workers. Platform monopolistic behaviors exacerbate inequality in some aspects, may even lead to imbalances between regions, urban and rural areas, and industries, further widening income gaps, increasing the digital divide, and thus hindering the realization of common prosperity. Platform monopoly causing serious income distribution inequality faces the following main regulatory dilemmas: First, existing laws have blurred boundaries for identifying worker exploitation, and implicit exploitation is difficult to detect. Second, uncoordinated regional development, unbalanced digital infrastructure construction, and there remains a large digital divide between urban and rural areas. Third, different groups have different information cognitive abilities, there are large gaps in digital technology application capabilities, and low-skill workers have lower salaries<sup>50</sup>. Therefore, how to appropriately adjust income distribution is another major challenge.

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#### IV. Legal Response to Platform Economy Anti-monopoly

Currently, China's platform economy faces a series of difficult problems such as platform "choose one of two platforms," "big data price discrimination," and data monopoly. These not only damage market fair competition order,

infringe upon consumers' legitimate rights and interests, but also cause data insecurity and other consequences, seriously affecting income distribution and hindering the realization of common prosperity. "Anti-monopoly law is a tool to achieve political missions; anti-monopoly law and its litigation are mainly for implementing public policy"<sup>51</sup>. The implementation of anti-monopoly law should maintain maximum neutrality, objectivity, and integrity, strictly following due process principles. Due to defects in the anti-monopoly system, existing anti-monopoly law cannot adapt to the current platform economy monopoly situation. Based on this, China should improve the existing anti-monopoly legal system and supporting measures at the legislative level; innovate digital law enforcement methods for efficient anti-monopoly at the law enforcement level; give full play to judicial safeguards, increase punishment intensity at the judicial level; and build a diversified, multi-subject dynamic regulatory system at the regulatory level.

### **(-) Legislative Level—Improving the Existing Anti-monopoly Legal System**

Monopolistic behaviors in the platform economy sector are increasingly severe, abuse of market dominance is becoming more rampant, and monopoly means are becoming more concealed. From the initial "choose one of two platforms" and predatory pricing to today's cross-border competition and new types of monopoly agreements, it is increasingly difficult to effectively identify whether digital platforms have abused market dominance. Therefore, there is an urgent need to improve the anti-monopoly legal system, perfect supporting measures for regulating platform economy monopoly behaviors, and relevant provisions on platform economy monopoly litigation.

First, improve the anti-monopoly legal system. The digital economy system is an organic unified whole, and its institutional system should also have structural and orderly characteristics to ensure its unity, integrity, and self-consistency. Institutional change is the source of power for a field to move forward, and any sub-link of institutional change may affect its overall development. In the digital economy era, there is an urgent need to improve the national governance system, especially innovation in building a digital governance system and perfecting the digital institutional system. As a rule system maintaining social order, the institutional system can influence the development trend of digital economy by playing an incentive and restraint mechanism, becoming a coordination and guarantee mechanism for the healthy and stable development of platform economy. Competition can stimulate innovation, and innovation will intensify competition. Therefore, law must both protect legitimate innovation and play the role of incentive mechanism, requiring the establishment of an innovation exemption mechanism to encourage innovation. China should explore and build an institutional system suitable for the development of platform economy productivity, including property rights systems, data security guarantee systems, and enterprise innovation systems. Anti-monopoly law is called the "economic

constitution” by academia and is regarded as super law<sup>52</sup>. In the Anti-monopoly Law, improve the identification standards for monopolistic behaviors, dynamically analyze merger and acquisition behaviors between platforms, introduce new competitors, and improve the measurement methods for relevant market definition and market dominance<sup>53</sup>, providing detailed explanations and identification standards for monopoly factors such as restricting competition, excluding competition, and monopoly agreements. Strengthen research on data, classify and encrypt platform economy massive data assets according to confidentiality levels<sup>54</sup>. Establish traffic distribution mechanisms, add judgment factors such as whether data, algorithmic technology, and personal information are abused, formulate more complete competition damage identification standards, and increase platforms’ justifiable reasons for defense on the basis of reasonably protecting consumers’ legitimate rights and interests<sup>55</sup>, which is conducive to improving the law enforcement efficiency of relevant departments on platform monopolistic behaviors. At the same time, prevent over-regulation<sup>56</sup> to avoid hindering innovation development.

Second, improve supporting measures for regulating platform economy monopoly behaviors. To standardize platform economy data construction, platform economy should be firmly positioned as having socialist public ownership attributes<sup>57</sup>. When determining platform “choose one of two platforms” behaviors, comprehensively consider whether the behavior damages market fair competition, deprives users’ autonomous choice rights, disrupts market order, and causes social losses. For example, introduce the abuse of relative advantage position system, establish data portability rights and algorithmic interpretation rules, strengthen legal regulation on platform algorithmic discrimination and data infringement. At the same time, allow platforms to conduct justifiability defense within the reasonable principle framework in the Anti-unfair Competition Law, and incorporate the “proportionality principle”<sup>58</sup> into consideration. Since algorithmic defects can easily trigger algorithmic collusion and subsequently implement monopolistic behaviors, algorithmic norms should be standardized and algorithmic risks should be regulated in a timely manner<sup>59</sup>. To achieve efficient utilization of platform data, secure data sharing should be guaranteed, and a “multi-governance” system for data resources should be built. To effectively address monopoly phenomena that may be caused by digital technology, digital taxes should be considered<sup>60</sup>. Finally, improve the identification standards for big data “price discrimination” behaviors and personal information protection systems in laws and regulations, make data usage public and transparent, refine relevant identification standards, and introduce scenario risk theory.

Third, improve relevant provisions on China’s platform economy monopoly litigation. Given that anti-monopoly civil public interest litigation has a wide scope of cases and unique preventive functions<sup>61</sup>, the Anti-monopoly Law should define the concept of anti-monopoly civil public interest litigation and improve its identification standards. Since the anti-monopoly civil public interest litigation system aims to protect social public interests, to build a complete platform

economy anti-monopoly legal system, China should clarify the scope of “social public interests” in the platform data field. The standardization of due process is an indispensable key link to facilitate anti-monopoly public interest litigation. The burden of proof should be reasonably allocated, inter-departmental coordination and cooperation mechanisms should be improved, fair competition reviews should be conducted regularly, platform operation conditions should be evaluated, and a series of systems for anti-monopoly enforcement should be improved. In addition, fair competition review should have the neutral attribute of institutional foundation and the proper attribute of institutional procedures, actively and effectively promoting mechanism optimization and effectiveness improvement of the fair competition review system. Improve data trading markets, perfect data factor property rights and their trading systems, improve intellectual property competitiveness, guarantee independent innovation and original innovation of platform enterprises, effectively connect various links of innovation transformation, and effectively protect the interests of data providers. Pay timely attention to the development and changes of platform enterprises, balance the competitive advantages and disadvantages of various platform enterprises, give play to the role of government, and effectively reduce platform monopolistic behaviors.

To achieve high-quality development of platform economy, all types of platform enterprises should be treated equally, ensuring equal rules and equal rights and obligations between different platforms, without special restrictions on platform enterprises, and smooth platform appeal channels.

## **(二) Law Enforcement Level—Innovating Digital Supervision and Law Enforcement Methods**

The competition and monopolistic behaviors of platform enterprises are highly concealed, increasing the difficulty of platform supervision and law enforcement. During law enforcement, it is often difficult to grasp the timing and scope of law enforcement, and the cost of investigation and evidence collection is high. Article 11 of China’s Anti-monopoly Law clearly stipulates that anti-monopoly supervision forces should be strengthened and the modernization level of supervision capabilities and systems should be improved. This is not only to adapt to the changes of the times but also to improve the scientificity and effectiveness of supervision.

First, use digital technology for law enforcement and scientific anti-monopoly. In the digital information era, digital law enforcement methods should be strengthened, the application efficiency of digital technology should be improved, the scope of digital law enforcement should be expanded, and the transparency of anti-monopoly law enforcement in the platform economy sector should be enhanced. Use multiple methods to accurately identify and determine algorithmic collusion<sup>62</sup>, “establish a neutral algorithm review institution”<sup>63</sup>, improve algorithmic transparency<sup>64</sup>, promote algorithmic governance, and use algorithmic technology to improve anti-monopoly law enforcement effectiveness. Take

scientific law enforcement methods as the strategic fulcrum for digital economy innovation and fair competition among platform enterprises, accelerate the pace of government digital transformation, and formulate strategic plans for digital economy development. In the face of new characteristics of platform enterprises, make good use of the double-edged sword of information technology. To keep pace with the times, the government should utilize advanced digital technology means to innovate governance methods, improve the scientificity and effectiveness of platform governance, and rationally respond to new challenges brought by new technologies. Using data crawling technology<sup>65</sup> can achieve low-cost, high-efficiency acquisition of needed data, help realize data openness and sharing, improve anti-monopoly precision. Strengthen the innovative application of big data, algorithms, blockchain, and other technologies, collect and analyze data from various platform enterprises, timely judge and analyze online public opinion on social network platforms, timely verify and investigate false reports on online media platforms, and timely conduct investigation and tracking on financial transaction platforms, improve government supervision efficiency, reduce supervision costs, effectively identify monopolistic behaviors, and effectively maintain the healthy development of platform enterprises.

Second, use blockchain technology for law enforcement and efficient anti-monopoly. Technology is neutral. Blockchain technology can be used by platforms to implement monopolistic behaviors, but it can also be used by governments to implement anti-monopoly behaviors. Blockchain technology has characteristics such as “decentralization and distribution”<sup>66</sup>. The “decentralization” of blockchain can eliminate monopoly<sup>67</sup>, and this advantage can be used for anti-monopoly law enforcement. The internal mechanism of platform economy monopolistic behaviors originates from platform economy itself<sup>68</sup>. To eliminate platform monopolistic behaviors from the root, a new model can be explored with platform self-governance as the main approach and legal external supervision as a supplement, which can effectively resolve platform data monopoly and reduce law enforcement costs.

### **(三) Judicial Level—Giving Full Play to Judicial Safeguards and Increasing Punishment Intensity**

The competition behaviors of platform economy are complex and changeable, and monopolistic behaviors have 恶劣 impacts, even causing survival crises for small and medium-sized enterprises. Therefore, anti-monopoly poses new challenges to the timeliness and effectiveness of law enforcement efficiency and judicial safeguards. Existing legal relief measures obviously lack timeliness and effectiveness.

First, improve the judicial safeguard system. As the bottom-line safeguard, the judiciary should promote institutional supply and balance institutional demand, and improve the behavior relief solution system centered on open data<sup>69</sup>. Effectively save transaction costs in the institutional operation process to improve resource allocation efficiency, implement strict anti-monopoly regulation

and other fair competition systems, and strengthen data property rights protection. At the same time, improve the effectiveness of digital economy security systems, enhance the legalization level of the digital economy era, strengthen the innovation effects of digital economy innovation systems, make good use of the institutional dividends of digital economy opening systems, and improve tax collection and management systems related to the digital economy. Simultaneously optimize the measurement and assessment systems related to the digital economy, and build digital economy-related security guarantee systems.

Second, strengthen cross-departmental coordination and cooperation and international exchange and cooperation. Strengthen the crackdown on illegal and criminal behaviors of platform enterprises, enhance cross-departmental joint crackdown capabilities, improve the connection mechanisms between different departments, and establish a long-term mechanism for cross-departmental coordination and cooperation. Focus on rectifying behaviors of illegally collecting and trading citizens' personal information. Once platform system supervision loopholes are discovered, timely feedback and notification should be given to effectively protect citizens' personal information security and maintain healthy and 良性 operation of platforms. Promote the construction of a network security guarantee cooperation mechanism, improve the digital social credit system, perfect platform credit systems, accelerate the cultivation of credit platform markets, and improve the scientificity, security, reliability, and compliance of platforms. At the same time, platform economy anti-monopoly is a common problem faced globally. International exchange and cooperation should be strengthened, and advanced anti-monopoly experiences from other countries should be learned. For example, Germany has relatively complete basic laws on anti-monopoly, and the European Union and other countries have relatively complete supporting guidelines on anti-monopoly.

Third, strengthen the primary responsibilities and behavioral norms of platform enterprises and increase punishment intensity. As transaction media, digital platforms enjoy independent pricing rights. Platforms should maintain neutrality and enhance social responsibility awareness. Establish a mechanism of credit incentives for trustworthy platforms and punishment for untrustworthy platforms between industries, build a market supervision system based on credit, set restrictions and prohibitions, raise industry entry thresholds, and promote the healthy and orderly development of platform economy. The development of platform economy concerns global economic development. Platform behaviors should be strictly regulated, and unfair competition behaviors such as damaging consumers' legitimate rights and interests, damaging other operators' legitimate operation rights, disrupting market fair competition order, and abusing market dominance should be severely cracked down on. The purpose of anti-monopoly is often economic benefits. The punishment and compensation mechanism for violating platform enterprises should be strengthened to combat platform monopolistic behaviors and protect the legitimate rights and interests of other subjects through economic sanctions. The compensation amounts for monopolistic behaviors in China's existing laws are relatively low and cannot achieve the

purpose of punishment. For platform enterprises that repeatedly implement monopolistic behaviors, punitive damages should be implemented, and those who seriously damage market fair competition order should be subject to criminal punishment to increase the cost of violations.

#### **(四) Regulatory Level—Building a Diversified, Multi-Subject Platform Economy Regulatory System**

Platform economy presents typical dynamics, with significant uncertainty and unpredictability, while existing anti-monopoly law systems are oriented toward static analysis, focusing mainly on ex-post regulation. The anti-monopoly regulation of platform enterprises should not one-sidedly emphasize strict supervision and heavy punishment. The focus lies in regulatory transformation, and the essence lies in regulatory innovation<sup>70</sup>. To effectively practice “development and regulation equally emphasized,” both enterprises and users should actively participate in platform governance. Establish a dynamic supervision concept, build a new regulatory mechanism, conduct full-chain supervision from pre-event to in-event to post-event, highlighting the precision, effectiveness, and scientificity of supervision. Give play to the roles of multiple subjects such as government, platforms, and users in supervision, forming a multi-governance pattern of government supervision, market entity autonomy, industry self-discipline, and social supervision, and promote the strengthening of platforms’ self-management and supervision capabilities. Taking “gatekeepers” as the focus of supervision has legal and efficiency rationality<sup>71</sup>.

First, innovate government supervision models. The government has credibility and should build a complete platform supervision index system, strengthen digital market research in the platform economy sector, design detailed supervision procedures, timely follow up measurement and assessment work, and fairly assess market competition status. Conduct dynamic supervision of platforms, for example, dynamically analyzing merger and acquisition behaviors between platforms<sup>72</sup>. China holds an “inclusive and prudent” attitude toward platform economy development<sup>73</sup>. To adapt to new technologies and new models that dynamically evolve in the digital economy era, inclusive and prudent supervision should be implemented, continuously innovating platform supervision means, exploring the establishment of an intelligent supervision framework, avoiding excessive supervision, and preventing excessive government intervention. Strengthen business concentration control and prohibit malicious exclusive behaviors<sup>74</sup>. Explore the construction of data commons, promote data openness and sharing, strengthen data management and protection, enhance digital market trust, encourage decentralized data storage, and curb monopoly caused by centralized storage<sup>75</sup>. At the same time, strengthen platform supervision, security supervision, and information supervision, improve systems such as anti-monopoly review, platform security review, and personal information review. Focus on standardizing regulatory agency settings, encourage agency reorganization, clarify regulatory responsibilities of all parties, and establish and

improve local-level regulatory organizational systems.

Second, innovate platform self-governance means. Platform enterprises promote platform economy development, establish industry associations<sup>76</sup>, and experts with professional knowledge regularly conduct risk assessments on platform enterprises to nip illegal and 违规 behaviors in the bud. When necessary, industry regulation can be introduced. At the same time, strengthen supervision on big data and algorithm security. Formulate risk levels, set maximum and minimum thresholds, and establish risk red and green lines. Once platform enterprises cross the red line, promptly notify enterprises to make corrections, reduce enterprise operation risks, give operators opportunities to correct mistakes, and for platform enterprises that refuse to implement corrections, then deal with them according to regulations. In addition, improve platform financial supervision rules, which is conducive to systematically preventing platform financial risks and maintaining the healthy and stable development of platform economy. Accelerate the pace of platform enterprise transformation, boldly innovate platform economy models, inject more vitality into society, implement social security systems for platform workers, follow national policy guidance, and regulate operations. Platform entrepreneurs can establish platform operator associations, regularly report on platform enterprise operation status, and simultaneously answer questions for small and medium-sized platform enterprises. Platforms should support each other and avoid abusing market dominance.

Third, regulate platform user behaviors. The importance of platform users for the healthy operation of platforms is self-evident. Platform user groups are active participants in platform enterprises, related to the survival and development of platform enterprises, and constitute an important component of platform governance. On the one hand, platform users should actively exercise their supervision rights, conduct legal supervision on the daily operations of platform enterprises, and promptly and proactively report to relevant departments when discovering that platform enterprises have behaviors such as monopolizing markets and unfair competition that disrupt the business environment. On the other hand, platform users should be guided to form autonomous organizations, encouraged to solve problems through internal consultation as much as possible, and explore new governance models such as merchant alliances and seller alliances. At the same time, users should strictly abide by platform rules, regulate and constrain their own behaviors, be responsible for their own words and actions, ensure they do not use platform rule loopholes or technical loopholes to illegally profit or maliciously smear peer competitors, with the purpose of promoting the healthy operation of platform economy.

Fourth, give play to social supervision effectiveness. Platform economy is no longer a cold advanced term but a common platform connecting people's daily needs that concerns every citizen's vital interests. Every citizen enjoys supervision rights, and everyone should use the rights in their hands to contribute to the normalized supervision of platform economy. At the same time, improve the incentive mechanism for social public supervision of platform operations,

timely reward those whose reports are verified as true, and impose fines and other punishments on malicious competitors who make false reports, in order to give play to public supervision effectiveness. In addition, various civil society organizations, industry associations, and other subjects should be encouraged to actively participate in platform governance, forming a new pattern of multi-subject coordinated supervision, and jointly creating a fair and orderly platform governance environment.

In today's era, platform economy is increasingly closely connected with various fields of social development. The development of platform economy is profoundly changing human lifestyles, social production methods, and national social governance methods. However, the digital economy is only a means for national development, while the sharing economy is the purpose of social development. Nowadays, with the in-depth development of platform economy, the lag of law itself is increasingly prominent. How to effectively strengthen anti-monopoly regulation in the platform economy sector has become a global consensus. As far as China is concerned, the anti-monopoly contradictions in the platform economy sector are sharp. How to effectively respond to platform economy dilemmas through anti-monopoly regulation has become an urgent problem that needs to be solved by academia and practice. Improving China's existing anti-monopoly legal system, perfecting supporting measures for regulating platform economy monopoly behaviors, and improving relevant provisions on platform economy monopoly litigation are particularly important. Innovating digital law enforcement methods, improving the application efficiency of digital technology, expanding the scope of digital law enforcement, and improving the transparency of anti-monopoly law enforcement in the platform economy sector should also be prioritized. Strengthening data property rights protection, improving the effectiveness of digital economy security guarantee systems, enhancing the legalization level of the digital economy era, strengthening the crackdown on illegal and criminal behaviors of platform enterprises, and establishing a long-term mechanism for cross-departmental joint crackdown on illegal and criminal behaviors that endanger data security should be implemented. Building a diversified, multi-subject regulatory system and establishing a new regulatory mechanism that connects the entire process from pre-event to in-event to post-event should be improved. Through the above measures, the situation of digital resource sharing, efficient digital governance, strong digital security guarantees, and mutually beneficial digital cooperation can be achieved.

*Note: Figure translations are in progress. See original paper for figures.*

*Source: ChinaXiv — Machine translation. Verify with original.*