

An Economic Analysis of Monopoly Power in E-Tailing Platforms

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Abstract

The continuous expansion of the market share of e-tailing platforms has formed a certain monopoly power, and this abuse of market dominance has damaged the order of fair competition and the rights and interests of consumers. Based on the typical characteristics of the e-tailing platform market, we establish a framework for establishing the spatiotemporal economic analysis of the monopoly power of e-tailing platforms and carry out an economic analysis of the monopoly power of e-tailing platforms from the differentiation between e-tailing platforms and traditional brick-and-mortar retailing platforms, the competition between e-tailing platforms and traditional brick-and-mortar retailing platforms, and the e-tailing platforms with the attribute of natural monopoly, and the e-tailing platforms' processes and cost are analyzed. Finally, combined with the current reality of competition order in the field of platform economy in China, it puts forward policy suggestions to improve the competition order in China's e-tailing market.

Keywords

E-Tailing Platforms, Monopoly Power, Anti-Competitive Behavior, Monopoly Agreements, Economic Analysis

1. Introduction

In recent years, with the rapid development of information technology, China's network retail platforms have risen rapidly, showing a rapid development trend, playing a more and more important role in the national economy, and gradually becoming an important force affecting the development of the social economy. E-tailing platforms are platforms that provide e-tailing services (Eggertsson et al., 2021). However, while developing rapidly, e-tailing platforms present a series of monopoly problems through the establishment of barriers, bundled sales, etc.,

which have serious negative impacts on both the order of market competition and consumer welfare. According to China's E-Commerce Law and Measures for the Supervision and Administration of Network Transactions, an e-tailing platform is an e-commerce operator that engages in the business activity of selling or providing goods (including services) through the Internet and other information technology means. The e-tailing platform belongs to the e-commerce operator, and it is the main body of e-commerce operations. The monopoly power of e-tailing platforms has become a "tumor" of market competition and has attracted the attention of regulators and the industry. In the face of the monopoly problem of online retail platforms, China's relevant legislative departments and regulatory bodies carried out legislation and regulation on them in March 2020 and November 2021 respectively. Among them, on November 27, 2021, the State Administration of Market Supervision ("SAMS") issued the "Anti-Monopoly Guidelines on the Field of Platform Economy (Solicitation of Opinions)" ("Guidelines"). For the first time, the Guidelines contain clear principles and methods for identifying monopoly issues in e-tailing platforms. The introduction of the Guidelines not only provides an important reference and basis for platform antitrust legislation but also provides strong guidance for antitrust enforcement in the platform economy. However, in the one year since its introduction, the Guide still faces many theoretical and practical difficulties in its practical application. However, with the increasing competition in China's e-tailing platform market, e-tailing platforms are also facing the trend of increasing monopoly power (Elliott et al., 2021). Therefore, it is of great significance to strengthen the regulation and supervision of monopolization of e-tailing platforms. Based on the theory of industrial organization and the characteristics of the platform economy, this paper will analyze the characteristics of market structure, price structure, supply structure, demand structure, and traffic structure of e-tailing platforms, analyze the reasons for the formation of monopoly power of e-tailing platforms, and combine them with the industry characteristics of e-tailing platforms and the experience of anti-monopoly regulation in China's reality, and, based on combing the current status of the legislation and law enforcement related to monopoly problem of e-tailing platforms in China, analyze the problem from the perspective of economics. Based on sorting out the current situation of legislation and law enforcement related to the monopoly of e-tailing platforms in China, we analyze the issue in depth from the perspective of economics and put forward suggestions to explore the strategy of regulating the monopoly power of e-tailing platforms, to provide reference basis for the relevant legislation and law enforcement, and to promote the healthy development of e-tailing platform market.

2. Establishing a Spatiotemporal Economic Analysis Framework for Monopoly Power on E-Tailing Platforms

The generation of monopoly power on e-tailing platforms has the dual attributes

of time and space (Hinokuma et al., 2021). On the one hand, the monopoly power of e-tailing platforms exists at a specific time and is generated by the competition and transactions between e-tailing platforms and other market players. On the other hand, e-tailing platform monopoly power is determined by its position in time and space (Haddad et al., 2021). Therefore, we can analyze the e-tailing platform monopoly power from both spatial and temporal perspectives. The framework is shown in Figure 1 below.

The monopoly power of online retail platforms arises from the competition among different market entities, which in turn leads to the realization of consumer welfare and social welfare maximization. By analyzing the spatial location of e-tailing platforms, it can be concluded that the monopoly power of e-tailing platforms arises from the state of “spatio-temporal separation” formed when there is competition between different market players. When there is competition between different market players, their spatial locations will be separated; when there is no competition between market players, their spatial locations will be merged. Under the state of “spatiotemporal separation”, e-tailing platforms have a relatively independent “spatiotemporal position”, which is the basis for the formation of their monopoly power.

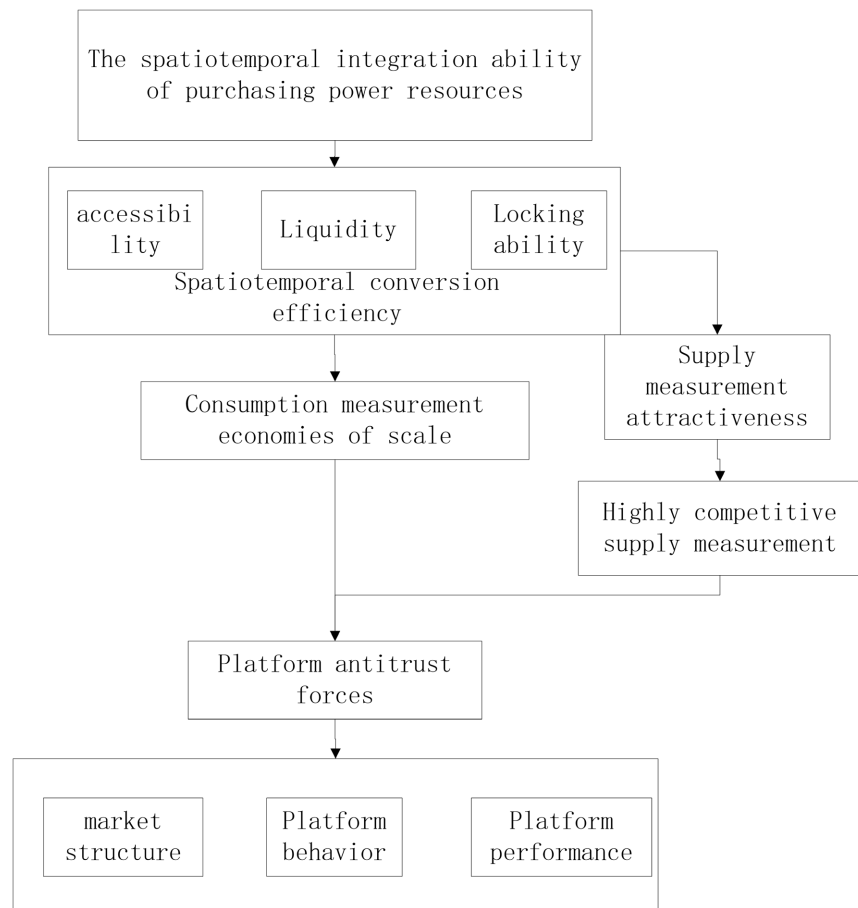


Figure 1. Framework for analyzing monopoly power on retail platforms.

3. E-Tailing Platform Characteristics and Process Analysis

The main features of e-tailing platforms include: First, e-tailing platforms usually provide consumers with information about relevant products based on their advantageous position, and provide consumers with appropriate purchasing channels on this basis. Second, e-tailing platforms make product recommendations through algorithms and divide them into different types based on factors such as consumer preferences and price sensitivity, and then make product recommendations within each type. Third, e-tailing platforms adopt different pricing strategies for different types of product recommendations, giving higher prices to price-sensitive products and lower prices to price-insensitive products. Fourth, the e-tailing platform analyzes consumer demand through its platform's big data algorithm and provides corresponding goods according to different consumers' demands (Kapilashrami, 2023). When the suppliers on the supply side are in a situation of perfect competition, and there is only one retail platform that can provide distribution services within a certain time and space, the purchase link of retail will form a buyer's monopoly. The schematic diagram of the buyer's monopoly of the retail platform is shown in the following **Figure 2**.

As shown in the figure above, the demand curve from the retail platform to the supplier is the final consumer's demand curve if the retail platform is in a monopolistic position in a certain space-time horizon. Assuming that the supplier is in a competitive situation, its supply curve is S . This line is also the average expenditure curve of the retail platform, AE , and ME is the marginal expenditure curve. Since the retail platform is a monopolist, it determines the quantity to be purchased based only on its marginal expenditure and demand (marginal value), i.e., the intersection of ME and D determines the quantity of goods to be purchased, Q^* , and the upstream supplier is willing to sell for P^* on this quantity. From the figure, it can be seen that when the market is perfectly

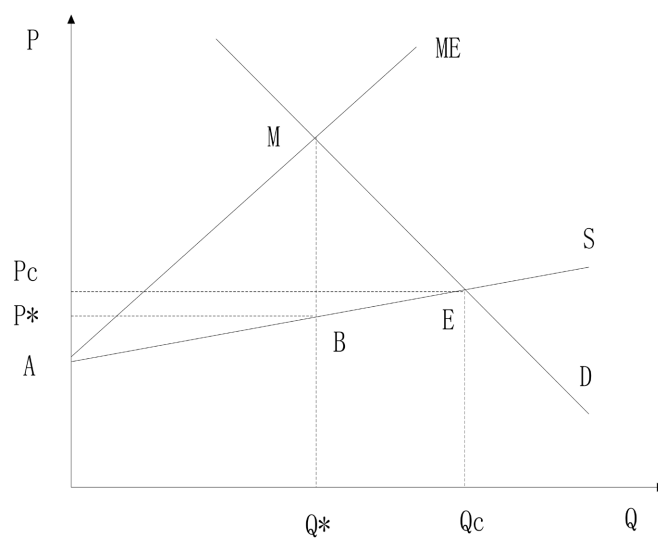


Figure 2. Schematic diagram of buyer monopoly on retail platforms.

competitive, the purchased quantity is Q_c and the corresponding price is P_c . Therefore, the monopoly of the retail platform leads to a higher bargaining power in the purchase of goods. Since e-tailing platforms generally do not actively push relevant information to consumers, but rather actively provide relevant information to users under specific circumstances based on their user characteristics and platform features, e-tailing platforms follow a certain process in providing relevant product information to users (Pande, 2022). In general, e-tailing platforms follow the following process when providing users with relevant product information: first, categorizing and recommending various types of products according to product recommendations. In the process of categorization recommendation, the e-tailing platform usually selects the corresponding types of products for recommendation according to the characteristics of different products; secondly, the corresponding products are provided according to the needs of users (Rouwenhorst et al., 2021). Since the demand for different types of products is different, e-tailing platforms will actively provide relevant products to users according to their demand (Sherwin, 2021); third, personalized recommendations based on user preferences. Since user preferences are highly subjective, e-tailing platforms usually make personalized recommendations according to user preferences in the recommendation process. Through the above process analysis, the e-tailing platform realizes an accurate grasp of consumer demand and personalized satisfaction through algorithm analysis and big data processing.

4. E-Tailing Platform Cost Analysis

E-tailing platforms are an important component of e-tailing platforms, and their operating costs are not only significantly different from those of traditional retail platforms but are also related to the nature of e-tailing platforms. An e-tailing platform is an organization that provides consumers with a shopping channel through the provision of information services and technical support, and on that basis offers products or services to consumers (Shi et al., 2021). E-tailing platforms differ from traditional retailers in that the services they provide are not limited to trading venues, but can support the trading of a wide range of goods and service types. Therefore, the costs involved in the operation of e-tailing platforms include not only direct costs such as transaction costs and fulfillment costs, but also indirect costs incurred in the transaction process. Among them, transaction costs include fixed and variable costs incurred by the platform itself. In an e-tailing platform, when the upstream supplier has a monopoly, its distribution shipping price P_p is greater than the marginal cost M_c ; however, when there is no retail platform, the supplier's direct selling price is P_s , and the supplier Q_s needs to be formulated according to the downstream consumer's demand function D :

$$Q_s = D(P_s)$$

The demand function from the consumption side to the final consumer is expressed as:

$$D(P) = a - bP$$

a , b are all constants. Then the maximum profit of the retail platform can be obtained:

$$\pi_1 = \text{Max}_P [(P - P_p)(a - b_p)]$$

Similarly, whether the retail platform is monopolistic or based on competition in branding and merchandising efforts, the retail model under the dual monopoly chain undermines the welfare of the manufacturer, and hence the general welfare of society. In the traditional retail market, major e-commerce firms derive their sales revenue from two main sources: merchandising revenue and commission revenue. For e-tailing platforms, their sales revenue mainly consists of two components: traffic purchase and advertising revenue. Among them, traffic purchase refers to the behavior of e-tailing platforms in providing goods or services to consumers through free or paid means. Advertising revenue, on the other hand, refers to the revenue that an e-tailing platform earns by investing money in advertising. Both of these revenues are fixed costs in nature, but their variable costs incurred in the course of operation are different. Fixed costs such as traffic purchases and advertising expenses do not change with factors such as transaction size and sales scale, but fixed costs such as traffic purchases and advertising expenses increase with transaction size. Therefore, in the operation of an e-tailing platform, both fixed and variable costs change as a result of an increase in transaction size.

It is worth noting that there are also significant variable costs associated with the operation of e-tailing platforms. This variable cost is composed of three main components: first, marketing costs incurred as the scale of transactions increases; second, cybersecurity and information security costs incurred as the scale of transactions increases; and third, other indirect costs due to the expansion of the scale of transactions. As the variable costs required to be invested in e-tailing platforms are large and fast-changing, the variable costs incurred in their operation will also show greater volatility.

5. Relevant Policy Recommendations

Given the current monopoly problem of China's online retail platform, drawing on the relevant legislation and law enforcement experience of foreign countries, and combining with the specific national conditions of China, the author suggests the following.

5.1. Enacting the E-Commerce Law to Clarify the Main Status of E-Tailing Platforms in the Form of a Law

For the first time, the E-Commerce Law defines operators within a platform and

sets out a series of regulatory requirements, such as explicitly prohibiting unfair pricing practices, swiping and speculation, and illegal tying. The E-Commerce Law should be introduced as soon as possible to clarify the monopoly status and legal responsibility of e-tailing platforms in the form of legislation and to clearly define and categorize them. The E-Commerce Law defines an e-tailing platform as a business activity engaged in the sale or provision of goods (including services) through the Internet and other means of information technology, specifically including the following situations: 1) operating goods or services within its platform; 2) registering operators within the platform as other operators; and 3) providing platform services through its information network or other information networks. The E-Commerce Law clarifies the legal status of e-tailing platforms, stipulates the obligations and responsibilities of platform operators, and sets out the access conditions, prohibited behaviors, and legal liabilities of e-commerce operators. At the same time, the relevant concepts and legal responsibilities of the Anti-Monopoly Law should be clarified as soon as possible. At present, China has introduced the Electronic Commerce Law of the People's Republic of China, but there is still no clarity on the legal status of e-tailing platforms. Therefore, the Electronic Commerce Law should be improved as soon as possible, so as to clarify, in the form of a law, the status of the main bodies of e-tailing platforms, including e-tailing platform operators, operators within e-tailing platforms and users of e-tailing platforms. The online retail platform operator refers to the organization engaged in the sale of goods, the provision of services and the provision of information intermediary, payment and settlement, and other auxiliary services in e-commerce; Operators of online retail platforms refer to organizations engaged in auxiliary services such as commodity sales intermediaries and payment and settlement through e-commerce; Online retail platform users refer to organizations engaged in commodity sales intermediary and payment settlement and other auxiliary services through e-commerce. In addition, the relevant legal responsibilities of online retail platforms should be clarified. Through legislation, further clarify the legal responsibilities and obligations of online retail platform operators, operators within online retail platforms, and users of online retail platforms.

5.2. In Determining the Monopolistic Behavior of Online Retail Platforms, the Principles of Reasonableness, Substance over Form, and Comprehensive Consideration Should Be Followed

The principles of reasonableness, substance over form, and comprehensive consideration should be followed in determining the monopolistic behavior of e-tailing platforms (Shokouhi Tabrizi et al., 2021). The principle of reasonableness means that factors such as the scale effect of the e-tailing platform, the technological advantage of the e-tailing platform, the market power of the e-tailing platform operator, and the special nature of the goods or services provided by the e-tailing platform should be taken into account. The principle of

substance over form means that consideration should be given to whether the monopolistic behavior of the e-tailing platform has the effect of excluding or restricting competition. At present, China's Anti-Monopoly Law applies to all monopolistic behaviors, but its legal provisions are too principled and abstract, making it difficult for law enforcement agencies to handle specific cases in practice. For the monopolistic behavior of e-tailing platforms, the relevant legal provisions stipulated in China's Anti-Monopoly Law are mainly focused on the regulation of the abuse of dominant market position, but there is a lack of special legislation for the monopolistic behavior of e-tailing platforms. This has led to difficulties in the application of the law to e-tailing platforms in practice. Specifically, the following three aspects of legal application need to be addressed:

First, the definition of monopolistic behavior of e-tailing platforms is controversial. At present, there are different views on the definition of monopolistic behavior of e-tailing platforms in China's Anti-Monopoly Law: some believe that e-tailing platform operators should bear the burden of proof for their dominant market position in the relevant market; others believe that the basis for the determination of their dominant market position should be improved. However, as the legal provisions on the definition of monopolistic behavior in China's Anti-monopoly Law are relatively principled and abstract, disputes on the application of the law are likely to arise when judicial organs deal with the monopolistic behavior of e-tailing platforms.

Secondly, the Anti-Monopoly Law's provisions on "justifiable reasons" are vague. Article 19 of China's Anti-Monopoly Law stipulates: "When an operator has a dominant position in the market, he shall not utilize technical means, market share or other means of influence to sell goods at an unfairly high price or to purchase goods at an unfairly low price; when an operator does not have a dominant position in the market, he shall not utilize technical means of influence to limit the transactions of others." The principle of comprehensive consideration means that the determination of monopolistic behavior of the online retail platform should be made with simultaneous consideration of whether the behavior is justified and reasonable. Firstly, the implementation of monopolistic behavior by online retail platform operators should be based on the relevant market. In defining the relevant market, the competitive relationship between the e-tailing platform operator and other e-commerce operators should be taken into account. Second, the legitimacy of the e-tailing platform operator's implementation of monopolistic behavior should be determined by the definition of the relevant market, and not by its implementation of monopolistic behavior. Finally, when an e-tailing platform operator has committed an act of exclusion or restriction of competition, it shall be judged by Article 50 of the Anti-Monopoly Law and shall consider whether the act is detrimental to competition in the relevant market. It should be noted that although Article 55 of the Anti-Monopoly Law provides for punitive measures for abuse of dominant market position, it does not provide for punitive measures for unfair competition. Therefore, the

above factors should be taken into account when determining the implementation of monopolistic behavior by an online retail platform operator.

5.3. Increased Regulation and Penalties for E-Tailing Platforms

Supervision and penalties for monopolistic acts committed by operators of e-tailing platforms should be strengthened, especially regarding malicious unfair competition and price fraud, which should be dealt with severely when the circumstances of their violations reach a certain level. In terms of legal liability, since China currently imposes administrative penalties on e-tailing platforms rather than criminal liability, the penalties for monopolistic behavior of e-tailing platforms are relatively small. In Western countries, the penalties for monopolistic behavior of e-tailing platforms mainly include fines and confiscation of illegal income. Among them, fines are the most important means of punishment for the implementation of monopolistic behavior by e-tailing platforms, while confiscation of illegal income is the most severe means of punishment for the implementation of monopolistic behavior by e-tailing platforms. Although China's Anti-Monopoly Law as well as the Electronic Commerce Law and the Measures for Supervision and Administration of Internet Transactions have given the relevant authorities the right to enforce the monopolization of e-tailing platforms, the formation of monopoly power of e-tailing platforms tends to be different from that of other market players due to the special nature of the market. Therefore, to realize the effective regulation and supervision of the monopoly power of e-tailing platforms, it is necessary to give full play to the enforcement power of the relevant departments over the monopoly power of e-tailing platforms. However, at present, the enforcement power of the relevant departments in China over the monopoly of e-tailing platforms has not been fully utilized, which has also led to the inefficiency of the relevant enforcement. For example, China's Anti-Monopoly Law and the Electronic Commerce Law and Measures for Supervision and Administration of Internet Transactions impose strict restrictions on the business scope and content of e-commerce operators, while e-tailing platform operators need to carry out the business of Internet transactions using approvals and licenses. Therefore, against the backdrop of increasingly fierce competition in the e-tailing platform market and the frequent occurrence of abusive market dominance behaviors such as "two-for-one", it is particularly important to improve the efficiency of the relevant law enforcement. In contrast, in China, because there is no clear legal responsibility and supervision of online retail platforms, the punishment of online retail platforms in practice mainly relies on administrative supervision and civil litigation. Because of the lag of administrative supervision and civil litigation, it is difficult to play their due role in practice. At the same time, because the punishment of online retail platform monopoly behavior mainly relies on administrative supervision means and civil litigation means, it is difficult to play its due role in practice.

6. Conclusions, Limitations and Future Directions

The anti-monopoly regulation in the field of platform economy is a complex systematic project, which needs the joint efforts of many subjects such as government, industry association, and enterprise. When regulating the monopoly of online retail platforms, in addition to the relevant market definition, the identification of abuse of market dominance and abuse of market dominance, it is also necessary to consider whether consumer welfare is damaged and whether market competition order is damaged. Therefore, when enforcing the law, it is not only necessary to consider the inadequacy of the existing legislation in regulating the monopolization of e-tailing platforms but also to draw on the enforcement experience of other countries and regions in this area.

In view of the relatively simple and rough economic methodology adopted in this paper, there are still many shortcomings. For example, the paper does not examine in depth whether e-tailing platforms have the qualification of operators independent of operators; it does not clearly distinguish whether e-tailing platforms are operators with independent market status; and it does not make a detailed distinction between the market power exhibited by e-tailing platforms at different times and in different geographical areas.

Therefore, this paper argues that follow-up research can consider the following aspects: 1) more in-depth and comprehensive theoretical research on the relevant markets; further research on the impact of platform monopoly on market competitiveness, including the impact on innovation, product quality, consumer welfare, and so on. This can help policymakers better understand the pros and cons of platform monopoly in order to formulate more reasonable policies. 2) Conduct more in-depth and comprehensive theoretical research on whether e-tailing platforms have the qualification of an operator independent of the operator; in particular, in the area of data privacy and platform monopoly, as the issue of data privacy becomes more and more prominent, in the future, we can study the impact of platform monopoly on data privacy, including the platform's collection, use, and protection of users' data, and other aspects. This could help reveal the risks and challenges of platform monopoly in terms of data privacy and explore corresponding policy solutions. 3) Conduct research on whether e-tailing platforms have market power independent of operators. Further research on the impact of algorithmic monopoly on market fairness, including how algorithms affect market competition and whether there are unfair and discriminatory behaviors. This will help reveal the potential risks of algorithmic monopoly and explore corresponding regulatory measures. Research on platform antitrust policy: In response to the phenomenon of platform monopolization, the effectiveness of antitrust policy can be further studied in the future, including the impact of antitrust policy on the platform economy, the impact on consumer welfare, and other aspects. This will help policy makers better grasp the effectiveness of the implementation of antitrust policies in order to make more informed policy decisions. 4) Conduct cross-country comparative research: By

comparing the development status of platform economy and antitrust policies in different countries or regions, we can gain a better understanding of the regulatory practices and policy differences between different countries and regions in the field of platform economy, which can provide useful references for future policymaking.

In short, the future research needs to explore the economics of monopoly power of online retail platforms in order to better understand its impact and challenges and provide scientific basis for policy makers.

7. The Innovation and Main Research Contributions of This Paper

This paper reveals the monopoly phenomenon of the e-tailing platform economy, which has become increasingly significant in the context of the rapid development of the digital economy. These platforms maintain their market position for a long time through the monopoly reinforcement of data, traffic and algorithms. Analyzing the network effect, it can be seen that the network effect is the most direct reason for the frequent emergence of monopoly phenomenon in the platform economy. There are two types of network effects, direct and indirect. Direct network effects are network effects between users of the same type, such as social software, where the greater the number of users, the lower the cost of communication between users. Indirect network effects are network effects between different types of users, including sellers and consumers in e-tailing platforms and drivers and passengers in the online car market, etc. The greater the number of consumers, the higher the income of sellers. Explore the role of data and algorithms in monopolization: platform companies continue to create new profits and data by collecting a large amount of user data, tracking and profiling users' behaviors, and conducting targeted promotions, offers, and advertisements. "Self-preferential treatment" is realized through special care for their own business or stealthy suppression of competitors' business. The above research contribution can provide reference for enterprises to formulate antitrust strategies and maintain a fair competitive market environment.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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