

# Study on Antitrust Regulation of Price Discrimination on Big Data Platforms

Zhang Xinyu<sup>1, a</sup>

<sup>1</sup>College of Law, Anhui University of Finance and Economics, Bengbu, Anhui, 2330230, China

<sup>a</sup>zxy15705626369@163.com

**Abstract:** *The emergence of the big data era has opened up new opportunities for price discrimination, rendering it a widespread and inescapable tactic for competition. However, the application of big data algorithms by highly influential platforms for consumer segmentation and the execution of dissimilar pricing methods within similar circumstances does not automatically breach the provisions governing price discrimination set forth in the Antimonopoly Law. Antitrust law only becomes relevant in cases where there is evidence of competition being restricted or harmed. However, limitations arise when applying the traditional identification method to the emerging industry of big data platforms, necessitating innovative and improved approaches. Therefore, we examine the illegality and necessity of regulating price discrimination within the domestic big data platform, whilst reviewing the current situation and regulatory dilemmas. We aim to improve the analytical methods of traditional anti-monopoly laws to uphold fair competition in the market of big data platforms.*

**Keywords:** *big data platform; price discrimination provisions; antitrust law; dominant market position*

## 1. Introduction

With the advent of the big data era, numerous platform operators have realised the immense potential of the data market. In pursuit of their commercial interests, they employ an array of algorithmic methods and big data to enable price discrimination. Such behaviour is becoming increasingly rampant and exhibiting a trend of alarming magnitude. Data has emerged as a competitive tool used by operators to effectuate monopoly. <sup>[1]</sup>Platforms can employ discriminatory differential pricing by collecting user information with the use of big data mastery and algorithmic technology that tracks previous purchasers.<sup>[2]</sup> For instance, on the Ctrip ticketing platform, a ticket for the same airplane and class can differ by thousands of pounds between new and returning customers. The utilization of large data algorithms heightens the likelihood of attaining price discrimination. The platform's differential pricing approach meets the implicit criteria of such discrimination, yet it may not necessarily infringe upon antitrust regulations since its outcomes could generate both beneficial and adverse effects. On one hand, it may reduce competition and consumer wellbeing. On the other hand, it could enhance the overall output.<sup>[3]</sup> Only antitrust laws may regulate “discriminatory” behavior that restricts competition without justification. Nonetheless, emerging price discrimination behavior also limits traditional antitrust laws. Given text adheres to the principles. Here is the answer: In view of this, it is necessary to conduct a thorough analysis of the phenomenon of price discrimination in big data platforms to identify any illegality and innovate the concept of relevant market identification and reasonable regulation. This will not only provide a reference for resolving difficult problems in anti-monopoly market practice but also aid the promotion of anti-monopoly judicial practice.

## 2. The meaning and importance of price discrimination by big data platforms within the framework of antitrust law

### 2.1. Connotation of price discrimination on big data platforms under the perspective of antitrust law

#### 2.1.1. Characterization of price discrimination by big data platforms

With the increase in the platform economy, individuals are acquainted with shopping platforms like Taobao and Jingdong, food ordering apps such as Meituan and Hungry Mou, along with ticket booking software like Ctrip and Flying Pig. Additionally, they are also familiar with online booking platforms for hotels and taxi services.<sup>[4]</sup> Demand has seen a greater change than supply on these platforms.

Platform operators with a dominant market position utilise their technological advantages in data and algorithms. Based on big data analysis, they have no justifiable reasons to implement unjustifiable differential treatment for users with varying profiles. Such conduct constitutes big data price discrimination in the platform field and is prohibited by antitrust law.<sup>[5]</sup> Platform operators perform algorithmic analysis to categorise consumers according to their personality traits, and to entice those willing and financially able to pay more with inflated prices, thereby converting consumer surplus into producer surplus. With the advancement of big data technology, algorithm-based "one person, one price" is increasingly prevalent in practice. By collecting data on consumers' habits, preferences, and purchase history, a more precise profile of consumers can be built, enabling the first tier of price discrimination.<sup>[6]</sup>

The behaviour of big data platform price discrimination has received extensive attention and scrutiny in the academic community. Academic opinion is split on the characterization of big data price discrimination. Some think it is a result of algorithmic bias,<sup>[7]</sup> whilst others believe it refers to the algorithmic profiling of users, resulting in differential pricing.<sup>[8]</sup> There are also concerns that such discrimination could constitute price fraud and violate consumers' right to informed consent.<sup>[9]</sup> However, solely relying on the above mentioned characteristics makes it challenging to precisely detect illicit conduct in the form of big data price discrimination, despite the term "discrimination" holding a highly unfavourable implication.

### **2.1.2. Causes of Price Discrimination by Big Data Platforms**

#### **(1) Big data and algorithms provide technical support**

The platform possesses benefits for implementing big data price discrimination against consumer users. It gathers a substantial quantity of user data and depicts user characteristics with precision. It analyzes user consumption habits through deep learning and deduces their buying capabilities and price sensitivity. It predicts their purchasing preferences to effectively influence their decisions. Furthermore, the platform has the ability to track and store user behaviour, creating valuable reference data for businesses. Utilising machine learning algorithms, the platform constantly enhances the precision of user profiling, specifically through the aid of accumulated user data, thus increasing the efficiency of the algorithms via ongoing training. The platform can be tailored to specific market segments and offer bespoke services to distinct groups or customers. This allows for the use of algorithms to personalise push notifications and ranking, ultimately leading to discriminatory differential pricing that maximises profits and can result in multi-stage, multi-link discrimination of consumers. This practice can easily result in thousands of different prices for individuals.

#### **(2) Exacerbation of the "information cocoon" situation**

There exists a discrepancy of information between the platform operators and intra-platform operators, which is primarily evident in their capacity to gather and scrutinise data. Despite the abundant availability of relevant information, accessibility is not guaranteed. Obtaining data at the initial stage, advancing to information gathering during the intermediate stage, and culminating with the final analysis entails substantial resource allocation. Data collection serves as the bedrock for this process, while data analysis supplements it. Internet platform operators who possess ample capital possess a definite advantage since they have the means to consistently expand their databases, refine their algorithms through experimentation, and eventually achieve precise categorisation of potential customer groups and price forecasting. In practice, several leading domestic Internet companies have proprietary databases, including "Aliyun" and "Baidu Digital Intelligence Platform." Some platform companies implement access restrictions and other measures to improve their own and their competitors' data advantages. However, these measures create a gap between companies while protecting confidential corporate data. Therefore, the rising prevalence of "winner-takes-all" on big data platforms is resulting in an expanding information gap between dominant entities and ordinary operators.

Furthermore, an imparity exists between operators and consumers, since most internet platforms necessitate real-name verification of users for the purpose of binding consumers and platform users together. Internet platform firms have adopted the practice of connecting consumers to the platform to guarantee secure transactions and restrict consumers from engaging in arbitrage. Nonetheless, gathering an overabundance of consumer data has widened the information gap between purchasers and suppliers. Platforms often use "blanket" measures to obtain information and employ precision marketing to trap consumers in an information cocoon. These practices contribute to the formation of a digital divide,<sup>[10]</sup> as platforms refuse to disclose the process of using Algorithmic technology citing "trade secret" reasons. Furthermore, the platform market exhibits a significantly concentrated market

structure, limiting users to selecting and comparing only a restricted choice of platforms. This often leads to users developing usage habits and creating a reliance on particular platforms.<sup>[11]</sup>

## ***2.2. The Necessity of Antitrust Law Regulation of Price Discrimination on Big Data Platforms***

Price discrimination is prevalent in everyday life, and the insurance industry provides a clear example where products are priced based on individual needs and associated risk factors.<sup>[12]</sup> In the book "Personalised Pricing in the Digital Era," the OECD proposes personalised pricing as a method that discriminates against individual consumer characteristics and behaviours. It also promotes competition and generally enhances consumer welfare.<sup>[13]</sup> However, the report suggests that implementing personalised pricing could have adverse effects in certain circumstances, which may require the implementation of policy instruments like competition policy, consumer protection rules, and data protection rules to address them. Concerning consumer protection rules, customers are free to choose their operator rather than being limited to a fixed one. In the field of competition policy, if a market-leading company implements tactics of differential pricing, it might impede equitable competition, resulting in exclusionary and exploitative outcomes that ultimately compromise consumer rights and interests. Moreover, the prevalence of price discrimination has been accentuated by advances in market dominance. The formulation and implementation of consumer protection regulations are influenced by numerous factors, with one of the major ones being the extent of consumer acceptance of price discrimination. If consumers view it as unjust or exploitative, they may demand greater legal protection. Exclusionary and exploitative price discrimination are predominantly regulated by competition legislation to uphold fair competition in the market and avoid dominant players from taking advantage of their position to safeguard consumer rights. Therefore, international regulations ensure the fair and efficient functioning of markets.

### ***2.2.1. Big data platform price discrimination behavior has a debilitating effect***

In the realm of platform economy, platform operators customise the cost of products or services by analysing the consumers' willingness to pay and price sensitivity through their data. This pricing approach is geared towards augmenting the operator's profit, although it frequently results in an exploitative outcome. The exploitation effect is evident in the tendency of operators to charge higher prices to consumers who are highly dependent or have a greater demand for their products or services, resulting in disproportionate pricing of goods and generating additional profits. Moreover, operators exploit consumers' cognitive biases by directing them to purchase higher-priced goods, leading to increased costs. As operators' access to consumer data expands, along with the further development of algorithmic technology, they become more capable of accurately identifying consumers' price sensitivity, and subsequently targeting charges towards those willing to pay higher prices. This algorithm-based differentiated pricing strategy results in exploitative effects that threaten the overall welfare of consumers. In the platform economy, the welfare of consumers encompasses more than just the amount they pay, and also extends to include their freedom of choice and privacy protection. Those who implement big data differential pricing, risk increasing the cost for consumers when purchasing goods and services and may also be infringing on their individual privacy rights. During the process of collecting data, operators have the potential to abuse the network, cross multiple markets, and excessively gather consumer information. These actions may result in a violation of consumers' privacy rights. Consequently, many have expressed concern regarding data privacy protection, and have called for appropriate legal measures to be taken to ensure that consumers' right to privacy is fully respected. High pricing resulting from violations of consumer data privacy undermines consumer welfare protection. Moreover, discriminatory pricing based on big data can reduce consumer surplus, thereby affecting the level of social welfare. It is essential to respond to antitrust law that aims to safeguard consumer rights and interests.

### ***2.2.2. Big data platform price discrimination behavior has exclusionary effect***

The platform operator's identity attribute is twofold: it appears neutral, offering a trading environment for platform operators, but also directly provides consumers with products and services as an operator within the platform - leading to a competitive relationship with other platform competitors. To gain a stronger competitive edge in the market, the platform operator incorporates big data algorithms into its operational system to exclude competition. This raises the market access threshold and achieves the aim of crowding out competitors. In a tightly restricted market environment, heightened market share allows operators to exert greater control over their competitors and achieve a greater dominance over other market operators, thereby endangering the competitive market order.<sup>[14]</sup> For instance, consider a takeaway platform's leading entity with a substantial number of

customers and significant market share; it employs algorithms to scrutinize copious amounts of user data to enhance the user experience and introduce innovative business models. In light of this, the leading platform creates bespoke marketing tactics by leveraging algorithms whilst collating ample user data. In this context, the incorporation of multiple competition-restricting programs within the data algorithm system creates insurmountable barriers, hindering potential competitors from entering the relevant market. As a result of this limitation, the innovation process in this field is also impeded. Big data platforms utilise data algorithms for price discrimination,<sup>[15]</sup> which can evidently compromise fair price competition. Therefore, the enforcement of antitrust regulations becomes an urgent and necessary matter.

### **3. Factors and Dilemmas in Determining the Illegality of Big Data Platform Price Discrimination Behavior**

The legal restrictions for platform operators are explicitly delineated in Article 9 of the Antimonopoly Law. This legislation underscores that platform operators shall not exploit their advantages in data, algorithms, technology, capital, and platform policies to engage in banned monopolistic activities, including inappropriate pricing strategies, notably personalised pricing. Moreover, the Antitrust Guidelines' Article 17 offers additional insight into how prominent market players in the platform economy may utilize diverse treatment of similar trading terms counterparties to stifle or constrain competition within their market. This provision explains that differential treatment can manifest in a few ways, including differential pricing based on big data and algorithms, the application of algorithmic bias, and varying payment terms and transaction methods. Platform operators who leverage consumers' payment capability, consumption preferences, and usage habits to establish different prices or transaction terms may engage in discriminatory behaviour, thus triggering antitrust regulation. Platform operators that use algorithms to establish various pricing based on consumer preferences are compliant with Antitrust Guidelines. They have implemented differential treatment as a counterparty to the transaction to counteract their dominant market position's abuse by accepting varying pricing treatments. Thus, to ensure fair competition and protect consumer rights, the Antitrust Law should regulate the discriminatory pricing of platform big data. Operators must comply with its provisions.

#### ***3.1. Determination of the relevant market share of big data platforms***

Assessing the possession and abuse of market dominance by a big data platform requires an evaluation of its applicable market. However, the constant evolution of the platform economy has made it increasingly challenging to define the boundaries of the relevant market. The indistinctness of the big data product limits makes substitution techniques for supply incredibly difficult.<sup>[16]</sup> The understanding of substitutability of products presented by big data platforms is inherently complex, with the advancement and refinement of big data technology further complicating predictions of substitutability. Furthermore, as technology develops and customer demands change, functional overlaps between seemingly disparate products may occur. The integration of physical and digital markets coupled with the growing degree of online and offline integration has caused considerable debate in the definition of market boundaries, thus posing a major challenge in determining market size and dominance. Moreover, the lack of cost associated with large-scale data platforms in two-sided markets presents a challenge when attempting to apply the SSNIP methodology. This method primarily relies on pricing as an analytical tool to assess how the market responds to price hikes, thus determining market conditions. However, since platforms attract users and collect data through "free" methods, market prices do not accurately reflect the market, rendering the SSNIP test method insufficient to make accurate calculations.<sup>[17]</sup>

In the digital economy era, the ability of platform operators to access information has a significant impact on their profitability. Registration data, consumption records, and other assets are vital for Internet companies. Such data are valuable assets for enterprises with advanced algorithmic technology and serve as the fundamental basis for platform operators to establish commodity prices.<sup>[18]</sup> Therefore, to determine whether an online operator has a dominant market position, law enforcement authorities must apply innovative assessment criteria. These criteria should provide a comprehensive analysis of platform user registrations and user activity actions, with platform user registrations being a major assessment indicator. However, the unique structure of the digital market challenges the relevance of traditional criteria for market dominance. Deciphering market power is complicated by the double-edged nature of network effects in the digital economy. Germany elucidated the dual impact

that network effects have on competition in their publication "Market Power of Platforms and Networks" since Internet platforms depend on networks. The correlation between measures of market power and market share comparisons has decreased, especially on digital trading platforms. This fact holds significance for firms that wield significant market power.

### ***3.2. Definition of "discriminated" subjects***

In the digital economy, platform operators possess a significant information advantage, derived from their capacity to analyse and mine vast quantities of data via algorithms. They devise customised pricing strategies for various consumers based on the outcomes of these data analyses, targeting those ultimate consumers who display a willingness to pay for discriminatory pricing. However, these end-consumers do not meet the criteria for a dominant market operator or counterparty, as outlined in traditional antitrust legislation. Market dominance, as defined by such laws, generally pertains to the competitive dynamic between firms, rather than the interaction between final consumers and firms. Consequently, such legislation does not address the issue of whether final consumers can be subjected to price discrimination. However, the most harmful consequences of price discrimination by operators through predatory pricing, tying and refusal to deal are typically the discriminatory impact on final consumers, and may also result in the exclusion of competitors and endanger market competition. Although China's Antimonopoly Law does not explicitly reference the concept of "consumer welfare," the broader concept of "consumer interest" is mentioned. Maintaining the order of free competition in the market requires consideration not only of the competition between enterprises but also of safeguarding "consumer interests". Hence, antitrust laws should prioritize safeguarding consumer welfare in determining monopolies. Assigning the end consumer as the counterparty in antitrust law has its unique value connotation. This perspective offers a lawful foundation and groundwork for future regulation of price discrimination in big data.

### ***3.3. Determination of "discriminatory behavior" of big data price***

China's Antimonopoly Law does not utilise the term "price discrimination". Rather, it implements "differential treatment" as a more prevalent concept. However, this expression often appears unclear and ambiguous in practical situations, particularly concerning the specific connection between "same conditions", "same products" and "different prices". There is a lack of distinct criteria for its implementation. In certain instances, such as with intra-group transactions, it is crucial to thoroughly examine whether they should be classified as similar transactions. The goal of antitrust law is to uphold market competition, not solely concentrate on price disparities. As a result, we must adopt a comprehensive antitrust law standpoint to scrutinize the detrimental impacts of big data pricing discrimination on competition.<sup>[19]</sup> In certain instances, pricing discrimination using big data could result in anticompetitive consequences. For instance, platform merchants may grant preferential pricing to their trusted customers, leading to the exclusion of rival companies and distorting the competitive landscape of the peer market. However, such instances are infrequent and often challenging to regulate through conventional means, necessitating the search for more targeted solutions to address this complex problem of big data price discrimination and competitive harm. This emphasises the urgent need for an in-depth study of big data price discrimination.

### ***3.4. Judgment of justification***

Price discrimination is a crucial subject in antitrust law, demanding meticulous evaluation and analysis in individual cases. In actual enforcement, various factors necessitate consideration; enforcement agencies must evaluate whether price discrimination aligns with standard business practices, complies with the law, or possesses other legitimate qualities. If an enterprise adopts price discrimination as a legitimate strategy in market competition or complies with the law, it may be exempt from liability. The Interim Provisions on Prohibition of Acts of Abuse of Dominant Market Position outlines what constitutes a justifiable reason for such discrimination. The guidelines for antitrust in the platform industry list the reasons why an operator may face unequal treatment. The hope is that these guidelines will help operators defend themselves. Often, when customers suspect they are being charged different prices, they are unable to assess the honesty and credibility of the merchant's defence due to a lack of understanding in the rules related to algorithmic pricing. Using the Flying Pig platform as an example, the challenge of pricing discrimination was addressed by explaining that the system provides various discounts for special events, such as "VIP price" and "new customer exclusive price", which are already listed on the platform's details page. It was stated that any differences in

prices are simply the result of bugs in the system. Similarly, the online travel platform Ctrip maintains that the plaintiff's complaint of "big data killing familiarity" is unfounded. According to Ctrip, the plaintiff encountered unfair pricing due to business hoarding and inventory tightening, resulting in excessively high prices. Ctrip denies any instances of pricing discrimination in the matter. Meituan takeout also experiences the "kill familiar" phenomenon, and there have been allegations of delivery fee discrepancies. However, Meituan membership is not related to this issue. The inaccurate delivery fee estimates are due to consumers not updating their positioning in a timely manner. The software has a positioning cache that presets the last address, resulting in inaccuracies. To clarify, this is not a problem of differential pricing. In summary, the justification clause's lack of clarity hinders the judiciary's ability to recognize big data pricing discrimination. When confronted with disputes concerning big data pricing discrimination, platform operators typically utilise different "reasonable grounds" to reject accusations, thus challenging the appropriateness of antitrust law.<sup>[20]</sup>

#### **4. Antitrust Regulation Ideas for Price Discrimination Behavior of Big Data Platforms**

##### ***4.1. Refinement of the Identification Standard of Market Dominance of Big Data Platforms***

The technical features of big data-enabled price discrimination present certain challenges to the conventional analytical framework of antitrust law. However, antitrust law remains the best option to tackle the issue of monopolies in the digital economy. The customary approach of market dominance analysis can be refined and modernised by incorporating the broader landscape of the internet industry and the specific attributes of the data market.

##### ***4.1.1. Improve the method of defining the relevant market***

Although big data products or services are often offered at low or no cost, which calls into question the validity of the SSNIP test for price increases, the monopolist test remains necessary and relevant. This test allows regulators to determine whether a single firm has an excessive amount of data or technological advantage that impacts competition within the marketplace. While price rises may not be the sole competitive concern, the gathering of data and the capability to manipulate market information also play important roles in evaluating market competitiveness. Hence, in the era of big data, the monopolist examination remains crucial in providing regulators with deeper insights into market dynamics and safeguarding the welfare of consumers. Given these circumstances, it is essential to further scrutinize and modify the monopolist test to adjust to the realities of the big data realm. The Supreme Court held that although the SSNIP test method may not be entirely applicable in Qihoo360's lawsuit against Tencent for abusing a dominant market position, it does not indicate complete dysfunctionality. Workarounds, such as a qualitative analysis of the SSNDQ-based test method,<sup>[21]</sup> can still be adopted to divide the big data market by analyzing varied profit models and further dissecting the related market under the same profit model. Alternatively, product performance can be observed to test changes; if there is a significant alteration in user behaviour during a specific period, the corresponding market response can be inferred. These methods work in conjunction with the SSNIP to supplement and innovate in the face of big data platform services that cannot be scientifically assessed as "free".

##### ***4.1.2. Criteria for the Recognition of Innovative Market Dominance***

In the current digital economy, data has become a vital resource in enterprise competition. This is particularly true for platform companies where possessing substantial user data and traffic resources provides both a competitive edge and influences the market significantly. To achieve their business objectives and market strategies, platform companies need to leverage cutting-edge technologies to precisely extract and transform user traffic.<sup>[22]</sup> The recent analysis of Alibaba's "two-for-one" case by the State Administration for Market Supervision has emphasized the significance of user and data resources. The Taobao platform functions as a lively online marketplace having a substantial amount of consumer users and gargantuan traffic. This vastness enables the Alibaba Group to create potent cross-side network and lock-in effects amongst operators present within the platform. Users and data are crucial resources for platform companies and also represent intangible assets that cannot be easily relocated to a competing platform. This poses a significant challenge for in-house operators moving from one platform to another, as it requires substantial effort and incurs high switching costs, including the need to rebuild their user base, regain website traffic and re-establish their market share. Hence, a precise delimitation of a platform company's market dominance necessitates considering not only its size and market share, but also its command over user resources and data, as well as the expenses

incurred when switching to alternative platforms. Ultimately, in assessing the market power of digital platform enterprises, aspects like data and switching costs should be considered. This will aid in guaranteeing the efficient execution of antitrust legislation to uphold market competition and safeguard the rights and interests of consumers.<sup>[23]</sup>

#### ***4.2. Clarifying the subjective elements of big data price discrimination***

One of the key difficulties in ascertaining big data price discrimination is identifying whether there is a scenario of "applying varied prices to transactions with the same conditions," leading to the presence of price discrimination. The concealed and highly specialised nature of big data price discrimination renders it arduous to detect substantial non-compliances, where there exists "the identical product or service, same individual, identical terms and conditions, and the presence of prejudiced pricing". A possible solution is to modify the criteria used to identify "factual elements" while upholding the fundamental requirement for price discrimination. This would enable better adaptation to the detection of price discrimination in the current economic climate.

##### ***4.2.1. Identification of the counterparty***

Unjustifiable price discrimination aims to decrease the surplus of consumers and augment the surplus of the operator in order to shift the benefits that were originally meant for consumers in favor of the operator. From the perspective of the ultimate harm caused by price discrimination, the utilization of big data for this purpose results in uncertainty and affects a broad segment of society. As previously mentioned, the Antimonopoly Law includes the safeguarding of consumer interests among its legislative objectives. Therefore, companies with abusive market dominance that engage in price discrimination against end-consumers are appropriately regulated by the law, ensuring that their rights and interests are not infringed upon.<sup>[24]</sup>

##### ***4.2.2. Recognition of differential treatment***

Price discrimination applies to goods or services of the same nature but varying in certain aspects. Discriminatory pricing extends beyond differences in selling prices and includes various practical manifestations such as bonus subsidies and cash discounts, which are common in the online trading market. Simply considering the price of two goods does not provide enough evidence that the operator's attitude towards both transactions is equal. Transaction costs, logistics and transportation, as well as after-sales service and other factors must also be taken into account to determine any differences in treatment.

##### ***4.2.3. Assessment of the effects of competition harm***

Price discrimination of big data cannot simply be outlawed across the board. It should be considered on a case-by-case basis, with due regard to the benefits it brings to consumers, the competitive effects and many other factors. Price discrimination on big data platforms has had an impact on competition among operators that is difficult to measure by a single indicator; it is therefore necessary to assess and judge the collective damage to consumers as an auxiliary means. Antitrust enforcement ought to incorporate consumer welfare harm as a key factor to conduct a reasonable assessment, guaranteeing the safeguarding of the interests of consumers and frontline victims. Since price discrimination can often have negative effects on the majority of consumers, the enforcement agency may reference victims' responses to the practice as an indicator for interventions. The presence of price discrimination in the market can be used to assess the extent of harm to consumers. The presence of price discrimination in the market can be used to assess the extent of harm to consumers. This can help identify if "price discrimination" exists in the market and the extent of harm to consumers. The presence of price discrimination in the market can be used to assess the extent of harm to consumers. If competition in the market significantly decreases after algorithmic pricing, antitrust authorities may conclude that the enterprise's behaviour is discriminatory. This not only harms consumer interests, but also leads to negative consequences such as exclusion and limited competition.

#### ***4.3. Clarifying the criteria for determining "justifiable grounds"***

One of the main objectives of antitrust law is to maintain market competition, but at the same time it is also necessary to balance the protection of legitimate business behavior and innovation. Therefore, the review of price discrimination is not only based on the definition of the law, but also needs to consider reasonableness and justification. This ensures that the enforcement of the antitrust law is able to prevent acts of unfair competition without restricting the conduct of legitimate business activities.

When dealing with price discrimination cases, law enforcement agencies should make comprehensive trade-offs to ensure fair and effective enforcement of the law, which can mainly focus on the following factors:

First, the standard of normal competition. The requirement of whether an operator can maintain normal competitiveness by engaging in big data price discrimination needs to be scrutinized first to determine whether it is a bona fide response to competition rather than a refusal to restrict competition. If operators can provide evidence that their behavior meets the requirements of legitimate business in order to safeguard the safety of operations, transaction management and other circumstances, then it can be considered as a reasonable justification.

Second, the standard of practical availability. If consumers obtain benefits from price discrimination behavior, such behavior can be considered reasonable to a certain extent, and this can be used as a reference factor in judging whether price discrimination is lawful or not. It does not set any restriction that affects the rights and interests of consumers, and therefore, it can be used as a reasonable defense. Changes in judicial practice have driven the emergence of practice availability, but the details of the enabling criteria and the manner in which they are to be applied are not yet clear. For this reason, there is a need to establish a more uniform set of ideas and criteria for determining availability as a defense.

Third, the criteria for evaluating efficiency. Focusing on the necessity of price discrimination behavior for operators to achieve increased efficiency, if operators use big data algorithms for pricing behavior, it can lead to more efficient production activities, accelerate the promotion of commodity innovation, improve product quality and consumer satisfaction, thus improving consumer welfare and the welfare of the whole society, which can also be some of the reasons for not being regulated by the antitrust law, such as new product promotion, technological innovation promotion and other defenses. If the operator adopts algorithmic pricing, which only maximizes profits, hinders innovation and reduces production, thus undermining the efficiency of competition, it should naturally be subject to the regulation of the antitrust law.

## 5. Conclusion

Due to the special characteristics of big data platforms and the complexity of the damage results, price discrimination on big data platforms requires comprehensive regulation by law from multiple perspectives and levels, and the Antimonopoly Law is undoubtedly the basic legal tool that plays a key role in maintaining the normal competitive order of the market. In the face of price discrimination on big data platforms, it should be rationally scrutinized and the legitimacy of the disputed behavior should be carefully considered in terms of the consequences of the behavior on consumer welfare, which cannot simply be illegal. In response to the attribution of big data price discrimination, after summarizing the dilemma of applying traditional antitrust analysis methods, feasible suggestions can be made to regulate the phenomenon of big data price discrimination in terms of the definition of relevant market, confirmation of dominant market position, and factors of factual determination, with a view to innovating the application of the Antitrust Law to the field of digital economy and responding to the needs of the times.

## References

- [1] AiMedia Report, "2018 Survey Report on Attitude and Behaviour of Internet Users in China's Big Data "Killing"," in AiMedia.com, <https://www.iimedia.cn/c400/61120.html>, last accessed 21 March 2022.
- [2] Wenjun Wang. *Antitrust Law Reflection on Algorithmic Personalised Pricing*. *Journal of Gansu University of Political Science and Law*, 2021, (05):141-156.
- [3] Sun Jin, Wang Di. *Definition of illegality and regulation path of personalised pricing behaviour of e-commerce platform-a comparative perspective based on dynamic pricing behaviour and offline trading behaviour*. *Journal of Northwestern Polytechnical University (Social Science Edition)*, 2022, (01): 111-119.
- [4] Shu Man. *Study on the Legal Problems of Big Data "Cooking" from the Perspective of Antitrust Law*. *Market Weekly*, 2022, 35(07):178-181.
- [5] Shi Yaotian, Zhai Wei. *Antimonopoly Regulation of "Big Data Cooking" in Platform Economy*. *Competition Policy Research*, 2022, (01):56-68.



- [6] Liang Zheng, Zeng Xiong. *Policy Responses to "Big Data Killing": Behavioural Characterization, Regulatory Dilemmas and Governance. Technology and Law (in English and Chinese), 2021, (02):8-14.*
- [7] Jiang Ye, "The Regulation of Algorithms and the Algorithm of Regulation: the Legal Regulation of Algorithms in the Era of Artificial Intelligence", in *Hebei Law, No. 12, 2018.*
- [8] Gao Fuping, Wang Yuan, "Why does big data "kill maturity"? ", in *Shanghai Rule of Law Newspaper B06 - Rule of Law Court* [http://www.shfzb.com.cn/newspaper/shfzb/html/2018-05/16/content\\_83292.htm](http://www.shfzb.com.cn/newspaper/shfzb/html/2018-05/16/content_83292.htm). Last accessed on 8 May 2023.
- [9] Liu Jiaming, "The Characterisation of Big Data "Killing Familiarity" and Its Legal Regulation", in *Journal of Human Agricultural University (Social Science Edition), Issue 1, 2020.*
- [10] Peritz T R J .*the predicament of antitrust jurisprudence: economics and the monopolization of price discrimination argument*[J]. 2018.DOI:10.2307/1372401.
- [11] Zheng Xiang, Wei Shuyuan. *Consumer rights protection under algorithmic pricing model. Journal of Northeast Normal University (Philosophy and Social Science Edition), 2022, (04):83-90.*
- [12] Yu Ling: "Misinterpretation and Identification of the Attributes of the Antitrust Law on Algorithmic Consumer Price Discrimination", in *Jurisprudence, No. 9, 2020.*
- [13] Zeng Xiong, "The Competition Law Regulation of "Big Data Killing"-Expanding with the Concept of Personalised Pricing", in *Internet World, Issue 9, 2019.*
- [14] Ye Ming, Guo Jianglan. *Legal Regulation of Algorithmic Price Discrimination Behaviour in the Age of Digital Economy. Price Monthly, 2020, (03):33-40.*
- [15] Shi Qi, Tang Dingxiang. *Big data marketing, price discrimination and technological innovation. Statistics and Decision Making, 2016, (14):55-58.*
- [16] Liu Yulan. *On the Antitrust Law Regulation of Big Data "Cooking" Behaviour. South China University of Technology, 2020.*
- [17] Tingqiang Chen, Jiaxian Shen, Yi Hu. *Bilateral Market Governance Path of Antitrust in Platform Economy - A Case Study Based on Ali's Monopoly Incident. Management Review, 2022, 34(03): 338-352.*
- [18] German Bundeskartellamt, Think Tank Internet. *Market Power of Platforms and Networks. bundes-kartellamt, 2016-06-01.*[https://www.bundeskartellamt.de/Shared\\_Docs/Publikation/EN/Berichte/Think-Tank-Bericht-Zusammenfassung.pdf?\\_\\_blob=publicationFile&v=4](https://www.bundeskartellamt.de/Shared_Docs/Publikation/EN/Berichte/Think-Tank-Bericht-Zusammenfassung.pdf?__blob=publicationFile&v=4) [2023-08-28]
- [19] Fu Lixia. *Study on the Determination of Illegality of Big Data Price Discrimination: Problems, Controversies and Responses. Journal of Huazhong University of Science and Technology (Social Science Edition), 2020, 34(02):95-104.*
- [20] Yan Qinxin. *The Antimonopoly Law Regulation of Algorithmic Price Discrimination in the Digital Economy. Theoretical Observations, 2022,(10):123-126.*
- [21] Yin Jiguo. *Theoretical logic and basic path of antitrust regulation in big data market. Politics and Law, 2019, (10):134-148.*
- [22] Gao Qing. *Reinventing the dominant position determination clause in the context of optimising the business environment of digital economy. Administrative Law Research, 2020,(05):77-90.*
- [23] XU Shenjian, GAO Qing. *Algorithmic Price Discrimination under the Threshold of Antitrust. China Law Review, 2022, (03):105-116.*
- [24] Lan Lei. *Research on the Judgement Standard of Illegal Price Discrimination Behaviour. Competition Policy Research, 2015,(02):58-70.*