

Regulatory Path of "Data-Driven Price Discrimination" from the Perspective of Anti-unfair Competition Law

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Abstract. With the development of the digital economy, data-driven price discrimination (also called "big data-enabled price discrimination") has started to appear in tourism, ride-hailing, e-commerce and food delivery, etc. Therefore, it will not be in the interest of consumers and is unfair competition. At present, the legal system in China does not have specific provisions; thus, the current competition regulations have defects in the elements of establishment, enforcement standards and burden of proof. Through case analysis, comparative study and literature review, this paper will explore the general features and legal harm of data-driven price discrimination, examine the development of related laws, and learn from the experience of the EU and the United States. A five-dimensional regulation system has been proposed that covers the legal classification of behaviour, algorithmic transparency, all kinds of remedies for consumers, cross-sectoral cooperation in law and order, strengthened regulatory supervision, etc. Based on the above, a comprehensive regulatory system at the foundation of competition law and a multi-legal coordination mechanism can be used to address the problem of data-driven price discrimination and protect consumer interests and maintain healthy competition in the digital economy.

Keywords: data-driven price discrimination, Anti-Unfair Competition Law, differential pricing, algorithmic discrimination, regulatory path

1. Introduction

Recently, large amounts of data and algorithms have been used on the Internet to create user profiles and adjust prices accordingly. The problem of "big data-driven price discrimination" has become a hot topic in society, as shown by the famous case of *Hu v. Ctrip* (2021) charged its diamond VIP customer almost twice the actual hotel room price [1]. According to the court's investigation, it was determined that the platform did not distinguish between its own services and those of third parties; thus, it would be considered a case of fraud.

Data-driven price discrimination may be covered by many laws, such as the Consumer Rights Protection Law, the Price Law, the Personal Information Protection Law and the Anti-Unfair Competition Law. However, there is no specific provision in the relevant regulations. Although the 2017 and 2019 revisions to the Anti-Unfair Competition Law have added special provisions for the Internet and algorithms, some problems have still occurred; for example, the language is often

ambiguous, there are irregularities in enforcement, it is difficult for consumers to gather evidence, and the punishment for violations is relatively light.

This paper will study the manifestations and legal harm of data-driven price discrimination, compare the old and new provisions of the Anti-Unfair Competition Law, learn from the experience of the EU and the US, and put forward specific suggestions for improving the regulations.

2. Specific manifestations and legal harms

Before examining regulatory approaches, the practical manifestations of "data-driven price discrimination" must be clarified, and its multiple legal harms to consumers and market competition must be identified; moreover, the underlying algorithmic mechanisms that enable such discriminatory pricing must be unpacked to reveal how they exploit consumer data asymmetries; finally, the cumulative economic and psychological toll on vulnerable consumer groups must be assessed, as these hidden costs often elude conventional antitrust scrutiny.

2.1. Typical manifestations

Data-driven price discrimination in practice exhibits diverse manifestations, primarily including the following: personalized pricing based on browsing history and purchase records, location-based price adjustments that reflect regional purchasing power, and dynamic fluctuations in real time driven by demand surges or inventory levels; these tactics are often embedded within opaque algorithmic systems that make them difficult for average consumers to detect or challenge; and their cumulative effect across multiple platforms can systematically erode consumer trust and distort perceived market fairness, even when each individual instance appears legally permissible.

2.1.1. Differential pricing

The main form is differential pricing. Different prices are shown for the same goods or services according to the consumption history, browsing records, device type, location and willingness to pay of users on the platform. For instance, some online travel agencies show different flight prices for repeated searches by the same person; some food-delivery apps charge different prices based on how often you use them. From an antitrust perspective, the price is a function of various people's reservation prices based on information advantages to maximise consumer surplus. This "thousand people, thousand prices" situation is the result of maximising profit and is not in bad faith [2].

2.1.2. Exploitation of consumption preferences

Platforms will know people's demand changes and adjust prices accordingly. By analysing browsing data, purchase history and search words, one can know people's economic strength and price sensitivity. High-spenders and those less sensitive to price will be shown the high-end items, and the low-price options will be hidden or removed; this selective visibility not only undermines consumer autonomy but also creates an illusion of market uniformity, where the very existence of cheaper alternatives becomes cognitively inaccessible to those who can afford to pay more.

2.1.3. Algorithmic shielding and promotional discrimination

The Platform employs all kinds of marketing methods. New users are usually given a larger discount, and the old group cannot use this special offer. Some inactive users will be given a "re-

engagement discount", and the discount for active users will be reduced or not available at all. Therefore, it will not be recommended to those who are loyal; this loyalty penalty effectively punishes sustained engagement while rewarding transience, creating a perverse incentive structure where consumers are rationally driven to switch platforms or periodically abandon their accounts, rather than maintain a stable relationship with the service provider.

2.1.4. Covert discrimination in dynamic pricing

Dynamic pricing in ride-hailing and food-delivery services is a form of hidden price discrimination. Algorithms can vary the price of the same supply and demand according to different types of user devices and consumption data [3]. Differential Pricing is also in the form of smaller fees and commissions, and it is relatively close to refined third-degree price discrimination [4]. Yet, unlike traditional third-degree discrimination based on observable group traits such as student or senior status, this algorithmic variant operates silently through invisible data proxies--such as battery level, phone model, or app usage frequency--which not only evades consumer awareness but also complicates legal detection, as the discriminatory criteria are neither disclosed nor easily inferable from the final price alone.

2.2. Legal harms

Data-driven price discrimination infringes upon the right of the people to a fair life. The main types of legal damage are as follows: economic exploitation that extracts excessive consumer surplus without corresponding value creation, procedural unfairness that denies consumers any meaningful notice or consent regarding how their data is used for pricing, and systemic exclusion that relegates price-sensitive groups to inferior market positions while shielding privileged segments from genuine competition; these harms are further compounded by the cumulative effect of repeated algorithmic adjustments across multiple transactions, which gradually normalize inequality as an invisible yet structural feature of the digital marketplace, thereby undermining the very foundation of transactional justice upon which consumer protection law traditionally rests.

2.2.1. Infringement upon consumers' right to know

Article 8 of the Consumer Rights Protection Law is the right to be informed about the real situation of goods or services bought. Data-driven price discrimination is not disclosed by the platform, so consumers do not know they have paid more. Platforms take advantage of the problem of information asymmetry to prevent consumers from making full-information choices and thus infringe on their right to know.

2.2.2. Infringement upon consumers' right to fair dealing

According to Article 10 of the Consumer Rights Protection Law, there should be reasonable pricing based on other circumstances. Data-driven price discrimination sets different prices for the same goods or services according to a person's personal characteristics and behaviour, rather than based on cost or quality, and thus violates the principle of fairness; this practice turns consumer traits into pricing variables without legitimate justification.

2.2.3. Disruption of market competition order and potential monopoly

Data-driven price discrimination will be deemed an anticompetitive act by the competition authorities. Large platforms have set up different prices to attract customers from all over and have increased their share of the market. They raise the prices for price-insensitive consumers to maximise the collection of consumer surplus and therefore operate in an exploitative manner [5]. This exploitative conduct ultimately distorts market dynamics and stifles rivals.

2.2.4. Violation of the principle of good faith

Article 2 of the Anti-Unfair Competition Law is the basic rule of good faith. Data-driven price discrimination takes advantage of the information asymmetry and trust of consumers to carry out covert price fraud and severely damages good faith and consumer confidence. Big data-enabled price discrimination is not to increase prices for everyone uniformly but to collect the maximum amount of consumer surplus by charging each consumer according to their willingness to pay, thus avoiding the problem of unfair competition.

2.2.5. Exacerbation of the digital divide and social inequality

Data-driven price discrimination may result in a higher price for economically weaker and digitally illiterate people, and as a result, the poor will be subsidised by the rich. Students sensitive to prices will be considered low-value users and will not receive the discount. Algorithmic pricing may also worsen the wealth gap among different genders, areas and ethnic groups; it has caused harm to society as a whole beyond the consumption rights of individuals [6].

3. Regulation under China's Anti-Unfair Competition Law: comparison and extraterritorial lessons

To examine the present situation of the law, one must learn about the development history and comparisons of the anti-unfair competition law in China, as well as relevant legislation in the EU and the United States; this tripartite examination not only uncovers divergent regulatory philosophies but also reveals converging concerns over how algorithmic pricing undermines consumer welfare and fair market order.

3.1. Comparative analysis of old Article 12 and new Article 13

In 1993, the Anti-Unfair Competition Law was released; by 2017, it had been amended in all respects and partially revised in 2019. The Old and New Provisions for Data-driven Price Discrimination are significantly different; this shift from a rigid, conduct-based framework to a more flexible, effects-based approach signals that legislators now recognize algorithmic pricing as a distinct threat requiring tailored regulatory responses.

3.1.1. Limitations of old Article 12

Only in 1993 was Article 12 removed, but it did not list data-driven price discrimination or algorithmic unfair competition. Before the 2017 revision, the enforcement authorities did not have a legal basis to handle data-driven price discrimination and were forced to use the general provisions

of the Consumer Rights Protection Law or the Price Law, which had little effect; this legal vacuum left consumers vulnerable and enforcers powerless.

3.1.2. Progress of Article 12 (Internet-specific provision) in the 2017 revision

In 2017, Article 12 was added to the revised Law on the Protection of Consumer Rights and Interests to specify that acts of unfair competition in the Internet would be covered by the law, list three typical types of such acts, and add a general-purpose provision for enforcement. At present, the regulations are based on "obstructing or disrupting the normal operation of other operators' lawful products or services", but platform-to-consumer price discrimination is not explicitly included in this list; therefore, it does not fall under the category mentioned above and is outside the scope of the regulations.

3.1.3. Progress and deficiencies of new Article 13 in the 2019 revision

Article 13 of the 2019 revision has added "use of technological means" to the constitutive elements and refined the regulatory framework, but there are still deficiencies. First of all, the range of its application is not clear; although there will be harm to other operators, most of the data-driven price discrimination will be directed at consumers. Second, consumers do not have direct standing or remedies. Third, the enforcement standards are not uniform. Fourthly, the upper limit of the fine is RMB 3 million and does not deter the large platforms. Algorithmic personalised pricing is a specific case that does not fall under the scope of illegality; because of the complexity of algorithms, there is also an independent need for regulation under the Anti-Unfair Competition Law [7].

3.2. Lessons from extraterritorial legislative experiences

A full study of the regulatory systems in the EU and the US will be carried out, and based on China's legal system and actual circumstances of enforcement, it is suggested that, in light of the EU's unified legislative model, China should learn from the decentralized approach taken by the US to construct a multi-legal, division-of-labour regulatory system through amendments and guidelines.

China is not the only place to face data-driven price discrimination. The EU and the US have gained a lot of experience in law and practice that China can learn from.

3.2.1. European Union: GDPR and DMA

EU legislation offers many ways. According to Article 22 of the General Data Protection Regulation (GDPR), one does not want to be subject to decisions made by means of sole automation and can demand a person's involvement in differentiated prices.

The Digital Markets Act (DMA) has raised the standards for the gatekeeper platform, and now it cannot combine cross-service data; users will be given some data access rights, the operation algorithm will have a certain degree of transparency, be subject to third-party audit, and such provisions will make it more difficult for consumers to gather evidence. Geographical-based online prices are an example of indirect discrimination; however, it is not easy to detect and prove under non-discrimination law [8].

According to Article 102 of TFEU, price discrimination means to have a "competitive disadvantage" and is not applicable to end consumers. Too high a price may be more suitable and will provide a reference for Chinese laws and regulations.

3.2.2. United States: decentralized legislation at Federal and State levels

The Federal Government has not released a law on data-driven price discrimination yet. The FTC may find that there is an unfair or deceptive act under Section 5 of the FTC Act.

California is leading at the level of the state. The rights of knowledge, deletion, opt-out and correction for consumers are now stipulated in CCPA and CPRA. CPRA has added the notion of "sharing" to cross-context behaviour advertising and thus reduced personalised pricing indirectly.

Some places have added restrictions in their price gouging laws against raising prices unreasonably for different groups of people. The Robinson-Patman Act is restricted to goods sales and does not cover end consumers; therefore, any viable legal basis must be sought within the Anti-Unfair Competition Law rather than under antitrust regulation.

3.3. Implications of the comparative analysis for China's regulation

The comparison of the two is as follows:

First, introduce the concept of an algorithmic mandate. In light of the DMA in the EU, China may also require large platforms to provide reasons for their initial price calculation algorithms to the government and be subject to external audits. If the consumers have reasonable doubts, then the platform will need to provide supporting materials to prove that the price is reasonable.

Second, give the public standing. Currently, the Anti-Unfair Competition Law in China does not grant direct standing to consumers; therefore, it is costly and difficult for them to enjoy the right of protection. Add a class action clause or provide for the right of compensation for damage to consumers in the amendment of the class action system.

Thirdly, increase the cost of the infringement. The present highest fine of three million yuan is not severe enough to deter large platforms. Drawing on the United States' FTC Enforcement Model: Impose a fine for the illegal profit or raise the upper limit of the statutory fine.

Fourthly, strengthen the cooperation of departments. Data-driven Price Discrimination is included in many laws. A coordinating mechanism should be established for the Anti-Unfair Competition Law, the Personal Information Protection Law, the Consumer Rights Protection Law and the Price Law to prevent fragmented application and conflict of laws.

4. Problems in China's current regulatory system

Although the laws have been introduced, there is still some confusion about the relevant regulations and other difficulties in applying them; this uncertainty stems from vague statutory language, inconsistent judicial interpretations, and the inherent complexity of proving algorithmic intent, all of which collectively undermine effective enforcement and deterrence.

4.1. Legal confusion and coexistence of conflicts and gaps

Data-driven price discrimination is in several laws, and as a result, different situations for application and remedies have caused practical problems. The consumer rights protection law is too old and does not have specific provisions on algorithmic price discrimination. The Price Law is for public utilities only. The Personal Information Protection Law does not directly forbid different prices. Therefore, the prices are not adjusted favorably for the consumers.

4.2. Evidentiary difficulties and severe information asymmetry

There are many problems in the collection of evidence for data-driven price discrimination. Algorithmic Logic is often considered a trade secret and is difficult to reveal. Consumers can only use screenshot comparisons to show that the prices are different, and because of the changes in algorithms, this evidence is difficult to retain. China has not set up a reversal of the burden of proof, and thus the consumer's evidence is almost out of reach. The first approach is to improve the fairness of information via algorithms and invert the burden of proof [9].

4.3. Insufficient enforcement capacity for algorithmic complexity

Market authorities have two problems. Firstly, the technology is not advanced. Most of the enforcement officers are not algorithm experts and cannot effectively review the pricing algorithm. There is a suspicion of data-driven price discrimination, but it has not been scientifically verified. Second, the enforcement capacity is weak. There are thousands of platforms across the country, so regulators cannot monitor them all comprehensively and must rely on consumer complaints, which are far fewer than actual cases.

4.4. Light legal liabilities and limited deterrent effect

The maximum amount of the fine under the Anti-Unfair Competition Law is three million yuan. For the large platforms with annual revenues of several tens or hundreds of billions of yuan, the fines are relatively small and have little deterrent effect. Platform operators will rationally decide to continue the illegal act because the cost of violating it is lower than the benefit obtained. There is an institutional defect that affects law enforcement.

4.5. Lack of effective collective redress mechanisms

Data-driven price discrimination is of a small scale and spread out in damage. The three reasons a person does not seek a remedy are a lack of cognition, high cost and absence of evidence; therefore, class actions or punitive damages are urgently needed [10]. Currently, the law does not have a class action system, representative actions have limited effect, and relying only on the Personal Information Protection Law is insufficient [11].

5. Proposals for improving the regulatory path

In light of the problems mentioned above and based on foreign extraterritorial experience, systematic recommendations for improvement should be put forward in five areas; these proposals target legislative clarification, enforcement coordination, algorithmic transparency mandates, consumer redress mechanisms, and cross-border regulatory cooperation, so as to build a coherent framework that closes the current loopholes and restores market fairness.

5.1. Clarify legal characterization

It is proposed that the Anti-Unfair Competition Law be amended to add a special provision stipulating that data-driven price discrimination should be considered a type of unfair competition, and it must meet the following four conditions: differential pricing, user-based (non-cost-based) differentiation, lack of justification, and harm to the order of competition [12].

5.2. Establish algorithmic transparency and reversal of burden of proof

Based on the DMA in the EU, major platforms should provide details of their main pricing algorithm to regulatory authorities and undergo audits [13]. If there is a reasonable doubt among consumers, the platform needs to bear the burden of proof that the prices are not discriminatory. Consumers should have the option to not be subject to algorithmic personalised pricing [14].

5.3. Enhance regulatory capacity and increase penalties

The State Administration for Market Regulation should set up an algorithmic review organ. The upper limit of the fine should be raised to 3% of the previous year's turnover or RMB 50 million, and in serious cases, there may be business suspension or license revocation. A "blacklisted" list will also be added; this blacklist mechanism enhances deterrence by publicly naming violators, thereby creating reputational costs that complement financial penalties and operational bans.

5.4. Strengthen consumer redress mechanisms

The Anti-Unfair Competition Law should be able to directly give rise to action for consumers, set a maximum penalty of three times the amount of actual damage, and establish a class action system for consumers that can be represented by qualified organisations; these consumer-centered remedies would shift the current enforcement paradigm from exclusive public oversight to private litigation, thereby incentivizing victims to come forward while relieving overburdened regulatory agencies of sole responsibility.

5.5. Strengthen cross-sectoral legal coordination

The State Administration for Market Regulation should issue a guiding document to coordinate the implementation of the Anti-Unfair Competition Law, the Personal Information Protection Law, the Consumer Rights Protection Law and the Price Law to prevent fragmentation and conflicts in legal application [15]. Such coordinated guidance would create a unified enforcement baseline, reduce regulatory overlaps, and offer clearer compliance signals for platform operators.

6. Conclusion

Data-driven price discrimination is a new type of unfair competition in the digital economy that takes away the right to a good life for all, disturbs market order, and spreads social inequality. Although the Anti-Unfair Competition Law of China has made some progress, it is still lacking in terms of clear provisions, consumer remedies, uniform application and reasonable penalties. Based on the experience of the European Union and the United States, the following five measures for regulation are put forward in this paper: clarify the legal status of algorithms, introduce algorithmic transparency and reverse the burden of proof; strengthen regulatory power and penalties; improve consumer redressing mechanisms; promote cross-sectoral legal cooperation.

The Regulations on Data-driven Price Discrimination should be based on the entire governance system of the Anti-Unfair Competition Law, and multi-level legal coordination and equal attention need to be paid to regulation and judicial relief. Only in this way can the interests of the public be protected, and the development of the digital economy will proceed in a fair and open manner.

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