US-China Law Review, March 2022, Vol. 19, No. 3, 99-113
doi:10.17265/1548-6605/2022.03.001

Antitrust Concerns Over Digital Self-regulation of Chinese E-Commerce Platform

CHENG Zengwen
University of International Business and Economics, Beijing, China

The Chinese State Administration of Market Regulation has begun to take action according to the increasingly strengthened supervision on the platform economy. With the application of big data, new algorithms can change the nature of work and the structure of the platform economy. The rising digital platform economy has gained great market power along with the ability to abuse digital tools, which causes considerable monopoly risks. This study gives an overview of the digital self-regulation system of the Chinese e-commerce platform, analyzes monopoly risk arising from digital self-regulation abuse, and offers proposals to regulate the antitrust behaviors according to laws and regulations.

Keywords: digital self-regulation, platform economy, algorithm power, antitrust policy of the Chinese platform economy

Introduction

According to the *E-Commerce Law of the People's Republic of China* (henceforth referred to as the *E-Commerce Law*), "e-commerce" refers to business activities that include the sale of commodities or the provision of services through the Internet or any other information network, that is named as platform. In Chinese platform marketplaces, many platforms which include product listings from a variety of sellers, such as Taobao and Tmall, aim to be fully integrated, multi-category e-commerce sites. China's e-commerce platform environment is developing rapidly, with rich formats and various forms. The platform ecosystem has been formed. At the same time, competition is fierce in the platform marketplace and a few large companies dominate the e-commerce industry.

In the worldwide, regulators are reaching a global consensus on strengthening anti-monopoly and competition policy for platforms. China's relevant departments have also begun to take action to support the enforcement of anti-monopoly and competition policy. In the contemporary platform ecology, the use of digital technology for self-regulation has become a common practice of the platform. Digital technology is neutral, but can be abused to gain undue advantage. Therefore, the main content of this paper addresses the anti-monopoly risk by digital self-regulation abuse, and how to regulate the abuses according to the *Anti-Monopoly Guide.* This paper is comprised of five parts. The first part discusses the situation of antitrust in China's platform economy.

Funding: The National Social Science Fund of China "Research on Long-Term Contract" (Grant No.: 18BFX120).
CHENG Zengwen, Ph.D. student, School of Law, University of International Business and Economics, Beijing, China.

The second part summarizes the current literature research on antitrust in the field of platform economy. The third part presents an overview of the digital system established by the platform. The fourth part focuses on the monopoly concerns caused by digital self-regulation and the particularity of monopoly risk in the platform economy. The fifth part expounds on the current anti-monopoly policies, laws, and regulations in China. This part also put forward solutions to the monopoly risk caused by the digital self-regulation of the platform. This paper argues that digital self-regulation by platforms has potential monopoly risks. Data and algorithms are typically driven by artificial intelligence that is changing the traditional economic structure.

Research Approach

With the development of platform economy and digital technology, the platform, as the intermediary of connection and interaction, is becoming more and more concentrated, and oligopoly begins to form (Arielezrachi & Maurice 2018). By operating digital platforms, large-scale technology enterprises have mastered a large amount of data and cutting-edge digital technologies, and gradually developed into "Tech-Giant" (Tucker, 2019). Cross-network externalities of the platform lead to barriers to entry, further intensify the formation of monopoly. Professor Tim Wu (2018) analyzed in detail the negative impact of technology giants on competition, and pointed out that large trusts produced by technology enterprises have begun to control people's lives and even manipulate government decisions. In 2017, Lina M. Khan (2017) took Amazon as the research object. In the paper of Amazon's Antitrust Paradox, she demonstrated the limitations of the anti-monopoly theoretical framework of Chicago School in the United States. The dynamic competitiveness of digital economy and the influence of market structure on market forces were ignored. She pointed out that the theoretical framework of anti-monopoly of platform economy should return to market structure analysis (Khan, 2017). Whether the platform abuses the dominant market position by collecting and using data has also become the focus of academic circles. Catherine Tucker (2020) pointed out that large digital platforms should evaluate data as "necessary facilities" to master big data resources, and put data monopoly into the anti-monopoly analysis framework. In recent years, the European Union, which has always strictly supervised economic digital enterprises, put forward the "gatekeeper" system of large-scale digital platforms in order to prevent monopoly of large-scale digital platforms beforehand.

In China's anti-monopoly research on platform economy, Ma Changshan (2018) proposed that in the Internet age, "mastering data means mastering capital and wealth; Mastering the algorithm means mastering the right to speak and regulate" (p. 22). Very incisive summary of the current status of digital platform, super platform already has strong market power through data and algorithms, including the accumulation of capital and wealth and the power of manipulation and control. The representative theories mainly include: the three-dimensional structure theory put forward by Yang Dong and the two-wheel drive theory put forward by Chen Bing. Yang Dong (2020) pointed out in many papers that the field of platform economy has formed a new pattern of market competition with three-dimensional structure of platform, data, and algorithm. It also lists the influence of the three-dimensional structure on the competition order in the field of platform economy, and points out that in the anti-monopoly supervision, we should increase the weight of technical forces in determining the dominant market position, return to the structural perspective, and effectively prevent the disorderly expansion of technology giants (Yang & Li, 2021). The theory of two-wheel drive put forward by Chen Bing and Lin Siyu

(2021b) refers to the widespread operation mechanism of "data + algorithm" in large-scale platform ecosystem, which constantly enlarges and strengthens the competitive advantage of platform ecosystem. Chen Bing and Lin Siyu (2021a) also pointed out that the two-wheel mechanism of data and algorithm also has negative feedback effect. And the competitive characteristics of the super platform are also studied. On the one hand, the super platform has quasi-public properties (Chen, 2020). On the other hand, the super platform has the transmission ability to accumulate power online, which realizes the entry and control of offline industries. The competition with other platforms is no longer limited to the same market, and it can easily beat other operators by taking advantage of its advantages in other unrelated markets (Chen, 2018).

At present, the research on anti-monopoly of platform economy mainly focuses on the price theory punishment centered on "consumer welfare" (Turnovsky, Shalit, & Schmitz, 1980), focusing on the definition of relevant markets, the identification of traditional monopoly behaviors such as predatory pricing (Bolton et al., 1999), etc. However, the era of Web3.0 has arrived, the platform ecosystem has begun to take shape, and digital self-regulation such as big data and algorithms have been highly infiltrated into the platform operation. Although scholars have noticed the characteristics of market structure and digital economy of the platform, they have emphasized the importance of technical force to the monopoly identification of the platform. However, as a relatively abstract superior concept, technical force is more reflected in scholars' advocacy of anti-monopoly in the field of platform economy. From the perspective of specific application of digital technology, the management algorithm of platform autonomy assists the platform to gain market power, and is abused by the platform to control and exploit users, which will cause monopoly harm. Therefore, the policymakers should focus on the concrete and micro platform behavior patterns, and make clear the underlying logic and exclusive characteristics of monopoly behavior in the platform economy field.

Overview of the Digital Self-regulating System

Need for the Platform to Establish Digital Self-regulation

In the e-commerce platform marketplace, the businesses (platforms) establish a digital self-regulating system to improve management efficiency. The legal nature of platform enterprises is a commercial subject, so why does the platform have the right to manage third-party sellers and consumers?

Authorization of contracts and laws. First, platform self-regulation is a management right, which is derived from the network service contract. The contract exists in the form of service protocols and platform rules. Upon reaching an agreement, e-commerce platforms are authorized to provide service to users, who will enjoy the network service at the expense of giving up some level of freedom and accepting the platform's management rules. In January 2019, the Supreme Court issued ten typical cases of Internet justice in China, among which there is the case of "Fuzhou Jiunong Trading Company vs. Shanghai Xunmeng Information Technology Company"; the court affirmed the rights of platform management and punishment in the judgment (Shanghai Changning District People's Court, 2017).

Furthermore, the self-regulation has the nature of mandatory influence and de facto dominance. Policymakers have enlisted a new class of more powerful third-party enforcers (Van Loo, 2020). So the platform's self-regulation is empowered by a law or administrative regulation. According to Article 7 of *the E-Commerce Law*, the state shall establish a collaborative administration system in line with the characteristics of

e-commerce, and promote the formation of an e-commerce market regulation system, joint participation by relevant authorities, e-commerce industry associations, e-commerce businesses, and consumers, among others. Among these participants, e-commerce platforms play the most important role because the platform market structure is two-sided. Therefore, the law clearly stipulates that platform businesses have the right to formulate rules and use technical means for self-regulation, which is a dominant and mandatory power in practice. Users who violate the platform's rules will be punished by their self-regulating systems, using punitive measures such as blocking links, removing goods from shelves, closing stores, and so on.

Enterprises' self-regulation incentives. Reputation: In order to maintain competitiveness in the field of platform economy, a platform constantly creates more attractive participation modes than other platforms, and becomes the game's rule maker (Bucher, 2012). Despite attracting a massive number of users and transactions on the platforms, digital self-regulation systems could efficiently and accurately monitor, and punish non-compliant behaviors. Using big data and algorithms, platforms put sellers and consumers into a better business environment, and standardize users' behavior to make them operate in an orderly and compliant manner. Orderly management can win a good reputation for a platform and attract more users. Meanwhile, platforms establish their credit evaluation mechanisms, which take the sellers' service attitude, logistics speed, and the degree of conformity of commodity description as evaluation indicators when classifying the stores. Platforms also issue credit endorsements, which address the distrust issues caused by the virtual and international nature of e-commerce. All of the platforms' self-regulating measures effectively aim to regulate sellers, protect consumers, and promote competition. A digital self-regulation system, therefore, is conducive for the development and innovation of the platform economy.

Efficiency and cost: To restrain costs, different governance strategies are adopted on the seller side as well as the consumer side to improve governance efficiency. Alibaba has established a digital self-regulation system covering five major networks, namely account number, transaction, capital, logistics, and evaluation, and developed deep learning and artificial intelligence technology covering all links before, during, and after sales. In 2019, the Alibaba Intellectual Property Annual Report mentioned that Alibaba's anti-counterfeiting algorithm system had been used for more than 20 years. The algorithms automatically operate 24 hours a day, and immediately kill 96% of suspected infringing links because of their illegal acts (Alibaba Group, 2019). Its system effectively maintains internal order and urges the users to operate in compliance with corresponding regulations.

How the Platform Conducts Digital Self-regulation

Platform rules. Platform rules are widely used in platform marketplaces. According to Article 32 of the *E-Commerce Law*, an e-commerce platform business shall abide by the principles of openness, equity, and impartiality, and develop a platform service agreement and transaction rules. Take Taobao's platform rules as an example. It has a rule system, which is complete and complex. In the system, internal management clauses are important, and most of them are digital self-regulation terms about the application of algorithm and big data.

According to *Taobao Platform Service Agreement* (May 2019 version), Taobao judges whether a user's behavior constitutes a breach of contract based on the data collected by the platform. The rules also allege, "You are obliged to give full proof and reasonable explanation for your data anomalies, otherwise it will be deemed as

a breach of contract" (Taobao, 2019a). In Taobao's *Rules for Identification and Punishment of Selling Counterfeit Goods*, given in detail is that there are difficulties in manual investigation facing a large number of sellers and goods (Taobao, 2019b). Platform self-regulation terms are also wildly used in other e-commerce platforms with a high market share, such as JD.COM Search Sorting Rules, Suning Tesco Distribution Rules, and Pinduoduo Consumer Protection Plan.

Digital tools. Punishing illegal behaviors and inspiring compliance behaviors have become the primary functions of self-regulation. Compared to human decision-making, digital tools could make more accurate predictions, and provide a higher level of transparency and fairness if artificial intelligence is used properly. As organizers and managers of bilateral or multilateral markets, e-commerce platforms serve the market and regulate it. Data and algorithms have become crucial technical means for platforms to enforce internal regulation.

Digitalization: In the self-regulating system, data is the raw material of algorithms. The theory that "data is the new oil" (Palmer, 2006) is becoming increasingly evident in the e-commerce business era. Data represents the description of something, and can record, analyze, and reorganize it. Digitalization refers to the process of transforming phenomena into quantitative data that can be tabulated and analyzed (Gray & Rumpe, 2015). Digitalization of everything has become a reality (Fleming, 2015). Transactions on electronic commerce platforms require a vast number of legal agreements; including user, as well as the platform network service contracts, sale contracts, entrustment contracts, consumption loan contracts, express transportation contracts, and so on. In the process of concluding a contractual relationship, users need to provide a lot of personal data. With the powerful technical capabilities of data collection, storage, and integration, specific data information can surpass the data itself and form data analysis results. The analysis results are applied to social and economic life to promote the convenience of life and economic growth (Akter & Wamb, 2016). Fingertip trading seems to be simple and quick, but the terms and conditions require that the trades take place completely in digital form on the platform, which makes the platform the biggest profiteer of data resources. Stucke and Grunes (2016) created the notion of "Data-opoly" from an economics perspective, using in-depth analysis of whether digital data are related to the typical sources of market power (Tucker, 2018).

Algorithmic regulation: The algorithm is based on big data collection and analysis. With the wide application of digital tools in regulation, scholars have argued that it was necessary to proactively deal with the challenges of the law brought about by the emergence of algorithms (Ding, 2020). Compared to other algorithms, the purpose of the self-regulation algorithms is quite unique. The self-regulation algorithms collect and analyze data and conduct automated decision-making.[1] Once platforms abuse these algorithms, the abuse will overlap with the network and lock-in effects of the bilateral market and cause complex, hidden, and diverse forms of anti-competition. Therefore, it is necessary and practical to implement anti-monopoly regulations against the autonomous algorithm to meet the current policy requirements to strengthen anti-monopoly supervision, and adapt to the digital economy characteristics in the platform economy.

[1] Article 24 of the *Personal Information Protection Law of the People's Republic of China* stipulates: "Where a decision that has a major impact on an individual's rights and interests is made by means of automated decision-making, the individual shall have the right to request the personal information processor to make explanations and to refuse to accept that the personal information processor makes decisions solely by means of automated decision-making."

Antitrust Concerns

This section analyzes whether the digital tools used by e-commerce platforms give rise to structural conditions that would lead to antitrust concerns, and explains the unique monopoly concerns generated by digital self-regulation. Competition could improve distribution efficiency and urge operators to provide products or services that consumers are willing to purchase. It also improves production efficiency, encourages business operators to reduce costs, and inspires innovation, thus promoting the maximization of consumer welfare and social wealth. The conception that everything must be digital has become a reality (Mayer-Schönberger & Cukier, 2012). The digital economy requires innovative production relationships. The relationship to manage or to be managed exists objectively owing to status. The platforms take advantage of their market power, abusing the digital self-regulating system to infringe on the rights of consumers and sellers. The following factors shall be accounted for when distinguishing features of platform antitrust concerns.

Premise: Market Power

The e-commerce giant emerging. In China, Alibaba is the most-visited website nationwide for e-commerce and shopping.[2] On December 31, 2019, Alibaba Group announced its quarterly results, showing that its monthly active mobile users in China's retail market reached 824 million people.[3] In comparison, Alibaba's closest e-commerce competitor, JD.com, has roughly 471.9 million users on its marketplace.[4] Between 2015 and 2019, Alibaba's average annual growth rate was 24.1 percent. Taobao and Tmall accounted for over 50 percent of the total online retail merchandise transactions in China. In particular, after the global outbreak of the COVID-19 epidemic, the virtual online economy expanded into the offline economic share. Internet oligarchs have gained unprecedented control and power over market forces. At the same time, different types of e-commerce platforms have expanded rapidly, for example, ride-sharing and ride-hailing services. A Chinese ride-sharing app DiDi Chuxing, formed in 2012, is serving more than 493 million users across Asia-Pacific, Africa, Latin-America, Central Asia, and Russia (Ciaccia, 2021).

The platform ecosystem. Platforms are frameworks that permit collaborators, users, peers, and providers to undertake a range of activities, often creating de facto standards and forming entire ecosystems for value creation and capture. The free flow of information in cyberspace breaks down all kinds of physical barriers and enables information to be shared. Without the barriers of time and space, an ecosystem of platforms began to form, and the behavior of participants in the platform started affecting each other. As the most influential and penetrating mode of network platform, e-commerce platforms have a huge user group and complex platform ecosystem. The platform ecosystem is driven by digitalization of products, services, and business processes. Self-regulation is their method of choice for maintaining control.

The network effect. In general, the more sellers a multi-sided platform has, the more buyers it can attract and vice versa. In e-commerce marketplaces, platforms coordinate intermediate trade between sellers and

---

[2] Amazon had 2.6 billion visits compared to 940.8 million for eBay in July 2020. Source: Similarweb. (July 2020). *Worldwide E-Commerce and Shopping Category Performance*. Retrieved from https://pro.similarweb.com/#/industry/overview/E-commerce and Shopping/999/1m/?webSource=Total.

[3] The number of Taobao users exceeded 800 million, and more than 60% of the new annual active users came from the sinking market (February 2020), https://baijiahao.baidu.com/s?id=1658426708440125360&wfr=spider&for=pc.

[4] Jingdong's number of active users increased by nearly 110 million in 2020 (March 2021), https://baijiahao.baidu.com/s?id=1693943240503869257&wfr=spider&for=pc.

buyers. The network effect is at work; hence, a buyer does not directly benefit from the presence of other buyers, but does benefit from the presence of more sellers. In turn, sellers are attracted by the presence of the buyers. Therefore, sellers feel forced to be on a competing online marketplace such as Alibaba because that is the platform preferred by the buyers. This phenomenon is also common on other e-commerce platforms. The bigger the platform, the stronger the network effect, and more control the seller receives. Network effects and digital self-regulation promote each other. The digital self-regulation helps to attract users, thus enhancing the network effect.

Distinct Features of Platform Antitrust Concerns

Internal bullying. When a user enters a platform and concludes a network service contract, they would be evaluated and punished for breach of the contract in the event that their behavior violates the rules. Platform rules are standard agreements that are non-negotiable and decided by the platforms from formulation to revision. As the platforms expand their market power and even gain a dominant market position, the monopoly risk continues to increase because platforms might leverage on their contracts to abuse a dominant market position. Nowadays, the principle of autonomy of will has become the "liability exemption means" for platforms. It could be seen from judicial cases that once the users agree with the rules and a network service contract is concluded, the court and law enforcement departments would be lenient to the platforms. However, as obligation clauses, the digital self-regulation rules are decided by the platform from formulation to amendments, and the rules have a substantial influence on users. This leads to actual control and manipulation over users by the platforms, and monopoly risks will be produced. In the current platform economy environment, platforms continue to strengthen internal control, but the boundaries of platform self-regulation are still unclear, the platform may abuse management rights across borders and bully the sellers.

Digital manipulation. Personal data on the web covers the entirety of your personal life from cradle to grave, slowly accumulating all data until it forms a "person" in a computer database (Parker, 2000). These platform enterprises, therefore, obtain the data at low prices from users and even infringe on privacy rights. Platforms also use big data analytics (BDA) to generate predictive data (Akter & Wamb, 2016). Through the BDA, the platforms can predict the risk of illegal behaviors of users and make automatic decisions. As a risk prediction, users' illegal behaviors have not yet occurred. For example, by checking the abnormal data of the seller's order quantity or return quantity, it is predicted that the seller will cheat consumers or other illegal behaviors, etc. Confronting with numerous users, commodities, and transactions, it is meaningful for platform to make risk forecast by using BDA. However, as the technical support of the platform's self-regulation, once platform abused the BDA, it will not only infringe the user's rights, but also cause the digital manipulation of the platform. "Big data enables merchants to track each user's behavior and connect the dots to determine the most effective ways to convert onetime customers into repeat buyers" (Jao, 2013, p. 1).

Algorithms summarize the laws from the operation of the material world through data and code (Wang, 2019). But, with untransparent algorithm and algorithmic discrimination, the risk of abuse quasi-public power has been exacerbated. The undisclosed decision-making process, untransparent design logic, and insufficient decision-making reasons make it difficult for platforms to win full social trust. Consequently, algorithm collusion has proliferated. As a new form of typical monopolistic behavior, algorithm collusion is harmful to fair

competition. As stated in the Organization for Economic Cooperation and Development's (OECD) Algorithms and Collusion Report, collusion is a common profit-maximization strategy that is jointly implemented by competitors in a way that might infringe upon consumer interests (OECD, 2017). Algorithm collusion mainly refers to the oligopoly agreement that is reached among platforms prior to price coordination. The rational utilization of algorithms does not restrict competition, but owing to the algorithm black box, collaborative behaviors between supposed competitors are concealed and enabled.

Conclusion: Application of the Law and Regulation

Tight Regulation of Antitrust Policy of the Chinese Platform Economy

To preserve fairer competition and limit largely privately-owned tech giants' market power, Chinese policymakers choose strict anti-monopoly regulation. Nowadays, the anti-monopoly regulation of the platform environment has gradually changed from "weak supervision" as guided by the traditional concept of "tolerance and prudence" to "strong supervision" which regulators now actively pursue (Qian, 2021).

As stated in the 14th Five-Year Plan for the National Economic and Social Development of the People's Republic of China and the Outline of Long-Term Goals for 2035, "to build a high-standard market system and prevent disorderly capital expansion, the anti-monopoly and anti-unfair competition law enforcement and judicial efforts should be strengthened." The Internet economy has increasingly been responsible for a larger proportion of the national economy[5]. The Central Economic Work Conference held on December 16, 2020, regarded "strengthening anti-monopoly and preventing the disorderly expansion of capital" as one of 2021's eight key tasks in economic work. The strengthening of digital rules and the optimization of laws and regulations geared to identifying the monopolistic behavior of platform enterprises was required to resolutely oppose monopolistic behaviors (State Administration for Market Regulation, 2021b).

Legislation. From laws to departmental rules, the new features of the digital-driven platform economy have become essential factors in anti-monopoly legislation. Paragraph 2 of Article 21 in the *Revised Draft of Anti-monopoly Law* (*Public Consultation Draft*) issued in January 2020 also added factors such as platforms and data into its analysis framework.[6] In February 2021, the *Guidelines of the Anti-Monopoly Commission of the State Council for Anti-Monopoly in the Field of Platform Economy* (the *Guidelines*) was formally adopted, which stipulated the monopolistic behaviors in the field of the platform economy, and repeatedly mentions the influence of data and algorithms on determining monopolistic behaviors. Article 22 of the *E-Commerce Law* stipulates that the e-commerce platforms shall not abuse their dominant market positions, establishing the connection between *the E-Commerce Law* and the *Anti-Monopoly Law* (*AML*).[7] Furthermore, Article 35 stipulates that e-commerce

[5] The 14th Five-Year Plan for the National Economic and Social Development of the People's Republic of China and the Outline of Long-Term Goals for 2035 (approved at the Fourth Session of the Thirteenth National People's Congress on March 11, 2021): "Section 3 named Strengthening Competition Policies of the Chapter 20 named Building a High Standard Market System."

[6] Paragraph 2 of Article 21 of the *Revised Draft of Anti-monopoly Law* (*Public Consultation Draft*) states: "To identify whether the operators in the Internet field have a dominant market position, factors such as network effect, economies of scale, lock in effect, and the ability to master and process relevant data should also be considered."

[7] Article 22 of the *Electronic Commerce Law of the People's Republic of China* states: "Electronic commerce operators who have a dominant market position due to their technological advantages, the number of users, the ability to control related industries, and the degree of dependence of other operators on the electronic commerce operators in transactions, shall not abuse the dominant market position and exclude or restrict competition."

platforms shall not abuse their relatively advantageous positions.[8] However, there are no direct expressions of "data" and "algorithms" in the provisions, except for "technical advantages" and "technical means." The Chinese government has strengthened the anti-monopoly aspect of platform economy from the legislative level. On 19 October 2021, the legislative process of *AML* was attempted to be accelerated with a formal text ("*AML Amendment*"), which was submitted to the thirty-first session of the Standing Committee of the National People's Congress for its first reading. Targeting the digital economy becomes the highlight of the draft (National People's Congress of the People's Republic of China, 2021). It should be pointed that the *Amendment* added two legal provisions that emphasized data and algorithm. One article is added as Article 10, "An undertaking shall not abuse data, or an algorithm, technology, or capital advantage, or platform rules to eliminate or limit competition." Article 17 is renumbered as Article 22, to which one paragraph is added as paragraph 2: "For the purposes of the preceding paragraph, 'act of abusing a dominant market position' shall include an undertaking with a dominant market position using data, algorithm, technology, or platform rules, among others, to create such an obstacle as to unreasonably restrict another undertaking." In January 2022, China released one regulation that touches on hot topics in technological development—algorithmic recommendations—making it one of the first countries in the world to directly tackle these cutting edge areas. Named "*The Provisions on the Administration of Algorithm-generated Recommendations for Internet Information Services*", this regulation aims to prevent the abuse and misuse of algorithmic recommendation technologies when providing Internet information services within the territory of China, while protecting the legitimate interests and rights of users (Luo, Liu, & Danescu, 2018).

Enforcement. SAMR had begun to take drastic measures in the field of platform economy, implementing major policies around the construction of the market system. On April 10, 2021, SAMR, which is responsible for the enforcement of *AML*, announced the imposition of a CNY 18 billion fine on Alibaba for abusing its dominant market position in e-commerce services market. Alibaba was able to significantly affect the sales of sellers, by using platform rules and algorithms (for searches and pricing). In the analysis of Alibaba's dominant market position, the *Penalty Decision* discussed the flow control and behavior monitoring generated by algorithms, which proved the platform's strong technical capabilities and market power. Thus, the retailers' costs of switching away from Alibaba's platforms were very high. They would lose an established customer base that routinely used Alibaba's platforms as purchase channels. Furthermore, they would also lose the attention of consumers garnered through the platform's promotion activities. In addition, the *Penalty Decision* proposed that platforms forced the sellers to obey the "choose one out of two" principle,[9] by the digital method. On October 8, SAMR made a decision on Meituan's punishment and ordered the firm to stop illegal acts and refund the full

[8] Article 35 of the *Electronic Commerce Law of the People's Republic of China* states: "Operators of electronic commerce platforms shall not use service agreements, trading rules or technology means to unreasonably restrict or attach unreasonable conditions to the transactions and transaction prices of operators within the platforms, or charge unreasonable fees to operators within the platforms."

[9] *Penalty Decisions* mentioned: "with the help of rules of market forces, platform and data, algorithms, and other technical means, platforms punish operators who violate the relevant requirements, including reducing promotion resources support, disqualified from promotional activities, search drop, the right to cancel the other important rights and interests of the platform, etc. The above penalty measures significantly reduce the attention of consumers to the operators on the punished platform, causing significant adverse effects on their normal operation, and at the same time, more operators on the platform have to implement the 'choose one out of two' requirement put forward by the involved parties."

amount of the exclusive cooperation deposit of CNY 1.28 billion. It also imposed a fine of 3% of its 2020 domestic sales in China, amounting to CNY 3.44 billion.[10]

Limitations. The new antitrust guideline does not provide a definite conclusion on how digital technology affects the platform economy's competition. Digital self-regulation has the dual characteristics of internal management and profit strategy. *AML*, which came into force in 2008, has difficulty coping with the rapidly growing platform economy. Even *the Guidelines* just served as auxiliary tools in the anti-monopoly analysis. With the promulgation of *the Guidelines*, the digital features have begun to be included, whereas the provisions are full of generalities, and fail to get down to the specifics. But there are no clear and detailed provisions on identifying data, algorithm factors, and monopolistic behaviors; as to the level of authority, *the Guidelines* are only departmental regulatory documents with a lower legal hierarchy. Meanwhile, digital means have been extensively utilized in e-commerce platforms, and hence, antitrust agencies should actively respond to the challenges caused by the digital economy. As mentioned above, the current anti-monopoly regulation is in a reform stage, and both legislative bodies and law enforcement departments have begun to assert themselves. Therefore, the specific regulatory path could be explored from the current framework of anti-monopoly legal rules.

The Accountability of the Platforms in the Anti-monopoly Law

The eligibility of the subject. As legal persons and business organizations, platform operators are accountable to *AML*. First, machine learning raises many challenging legal and ethical questions about the relationship between man and machine, humans' control or lack of it over machines, and accountability for machine activities (Ezrachi & Stucke, 2017). Self-regulation algorithms are digital means operated by machine learning and decision making. In other words, they are platform behaviors. Moreover, the design of algorithm models, code compilation, data collection, and algorithm application are all directly carried out by the platform. As a kind of artificial intelligence technology, digital means, especially the algorithm, are presented in the form of professional, hidden, and unreadable technical codes. Whatever the shape of the self-regulation practices, they are not divorced from the platform's social behaviors, and hence, the platforms carry the legal liability. Also, as business entities, platforms are not completely neutral, and it is inevitable that the platforms may abuse their management right and technological power to maximize their own commercial interests.

Legal effect of restricting competition. By taking advantage of their dominant market position, platforms impose unreasonable penalties on merchants, and control the sales channels and deal flows. The abuse of self-regulation algorithms has become a direct technical method for platforms to achieve vertical control and deprivation abuse of their clients. The boundary between competition and monopoly in the platform environment is not as clear as that stipulated in the legal provisions, and sometimes they might transform into each other (Jin, 2018). As the most important means for digital management, algorithms are concealed and usually run in the background. Users will pay more attention to the functional application of a platform and seldom perceive the algorithms' existence (Rader, Cotter, & Cho, 2018). After abusing digital means, making price strategies, or conspiring with hidden algorithms, platforms restrict competition and infringe on consumers' interests.

[10] *Economic Daily* interprets the monopoly case of the US Mission exclusively: Avoid the platform economy falling into a low-level competition cycle, http://www.ipraction.gov.cn/article/gzdt/bmdt/202110/358393.html.

Nowadays, platforms use big data to charge higher prices to existing customers. The price discrimination behavior performed by platforms is the same kind of price discrimination behavior prohibited by the *AML*. Furthermore, in the platform marketplace, unhealthy competitive behavior between enterprises is more likely to damage the interests of consumers' right to choose and know. Whether it is the *Guidelines* or *AML*, it is clearly stated in the article that the legislative purpose includes protecting the interests of consumers.

SAMR disclosed in the *Penalty Decision to Alibaba* that the platform uses digital means to restrict its sellers. If the sellers failed to meet the requirements of "choose one out of two", the platform canceled their activity qualifications, reduced their search rights, or controlled their sales opportunities using their platform rules and algorithm. In the online food delivery platform market, the legitimacy of high commissions has also been questioned. The allegation that Meituan platforms abuse their algorithms to calculate commissions, compress delivery time, and neglect riders' safety is controversial, resulting in extensive debate (Dali Finance, 2020). On October 8, 2021, SAMR officially announced that their investigation had concluded that the Meituan group had "abused its dominant market position in China's online food delivery platform market" (Asia Financial, 2021, p. 1).

Application of the Guidelines

As stipulated in Article 4 of *the Guidelines*, anti-monopoly supervision in the platform economy should harmonize the legitimate interests of all parties.[11] This article emphasizes that the development of a platform economy involves numerous parties, hence the need for regulators to protect the legitimate rights of platform operators, consumers, merchants, and other parties involved in the platform. As a technical means of self-regulation, abuse of the algorithm will aggravate the imbalance of interests among parties, especially the managed and controlled operators. Therefore, as stipulated in Article 4 of *the Guidelines*, the digital self-regulation should be regulated for consumer and merchant protection.

Against the platform internal bully from the seller-facing side. In recent years, platforms' deprivation abuse of sellers has become the focus of regulators' anti-monopoly examinations in international anti-monopoly policy-making. In November 2018, the German Federal Cartel Office (FCO) launched an investigation into Amazon's abuse of its dominant market share. The FCO pointed out that Amazon had become a "gatekeeper" of user access and had a strong user stickiness. The Anti-Monopoly Investigation Report of the US had a similar discussion on the monopolistic behaviors of the Amazon platform, provided plenty of facts to show the platform's huge market power and "gatekeeper" status, and focused on analyzing its various control strategies on sellers. In this report, various evidence and facts were cited to discuss Amazon's use of asymmetric power status to control, bully, and exploit sellers. In response to the antitrust experiences of overseas, regulators should clarify the boundaries of platform self-regulation. As the power of platform self-regulation derives from network service contracts, it should use competition mechanisms and traditional private law norms to restrict the power.

[11] Article 4 of the *Anti-Monopoly Guide* stipulates: "… (IV) Safeguard the legitimate interests of all parties. The development of platform economy involves many subjects. While protecting fair competition in the platform economy, giving full play to the platform economy to promote the optimization of resource allocation, technological progress and efficiency improvement, anti-monopoly supervision focuses on safeguarding the legitimate rights and interests of operators, consumers and employees within the platforms, and strengthening the overall coordination between anti-monopoly law enforcement and industry supervision, so that the whole society can share the technological progress and economic development achievements of the platforms, and realize the overall ecological harmonious coexistence and healthy development of the platform economy."

As stated in Article 11 of *the Guidelines*, data and algorithms have attached importance to the analysis of the abuse of market dominance. First, among the factors that determine the dominant market position, data and algorithms directly reflect the technical ability of the platforms to dominate and control the market,[12] as well as their financial conditions.[13] If platforms abuse digital self-regulation, the lock-in effect and user stickiness will be achieved, and the users' dependence on the platforms will be formed.[14]

According to *the Guidelines*,[15] data and algorithms are both essential, technical means to achieve the specific abusive behaviors of dominant market players in the platform economy. By abusing the digital self-regulation means, it is easier and more convenient to engage in anti-competitive conduct. The platforms have the incentive and ability to abuse their dominant position against third-party sellers, deprive the upstream and downstream enterprises or terminal consumers of their interests to obtain exclusive profits, and grab profits among different industrial value chain levels.

Concerted conducts by data, algorithms, and platform rules. Article 5 of *the Guidelines* points out that "other concerted conducts" means conducts with substantive coordination and consensus by data, algorithms, and platform rules, or other methods, although operators have not specifically entered into any agreement or made any decision, except in terms of price and other parallel conducts of relevant operators on the basis of independent declaration. In the short term, many harsh autonomous terms and algorithms do benefit consumers—for example, the "subsidy war" among food delivery and takeout platforms. When the new platforms enter the market and compete for market share, the "subsidy war" will become a carnival for consumers to enjoy low prices. Consumers seem to "get the best deal", but the short-term benefit which is based on the deprivation of internal merchants is unfair. The information between platform and consumers is asymmetric, forming a striking power contrast.

Application of the E-Commerce Law

The comparative advantage theory of competition (CATC) was proposed by Hunt and Morgan (1995). However, the *ATL* stipulates no rules about the theory. Article 35 of the *E-Commerce Law* stipulates that, it is

---

[12] Article 11 of *Anti-Monopoly Guide* stipulates: "Determination of market dominance (II) The ability of the operator to control the market. This determination can consider the operator's ability to control upstream and downstream markets or other related markets, his ability to hinder or influence other operators to enter relevant markets, the business model of relevant platforms, network effects, and his ability to influence or determine prices, flows or other trading conditions."

[13] Article 11 of *Anti-Monopoly Guide* stipulates*:* "Determination of market dominance (III) Financial and technical conditions of the operator. This determination can take into account the operator's investment situation, asset scale, capital source, profitability, financing ability, technological innovation and application ability, intellectual property rights owned, ability to master and process relevant data, and to what extent the financial and technical conditions can promote the business expansion of the operator or consolidate and maintain the market position."

[14] Article 11 of *Anti-Monopoly Guid*e stipulates: "Determination of market dominance (IV) The degree of dependence of other operators on this operator in transactions. This identification can take into account other operators' trading relationship with the operator, their transaction volume, transaction duration, the lock in effect, the user stickiness, and the possibility of other operators switching to other platforms and switching costs."

[15] Specific abuses identified in the *Anti-monopoly Guide* include: unfair price behaviors, sales below cost, refusal to trade, limited trading, tying or attaching unreasonable trading conditions, differential treatment, etc. Targeted response to "choose one out of two", data monopoly, big data killing and other hot issues of widespread concern to the society, enhance the operability and predictability of the legal system, and promote various market entities in the platform economy to operate in compliance with laws and regulations. Source: State Administration for Market Regulation (2021, February 7). *Promote the Standardized, Orderly, Innovative and Healthy Development of the Platform Economy—Interpretation of the Anti-Monopoly Guidelines of the Anti-Monopoly Commission of the State Council on the Platform Economy*. State Administration for Market Regulation. Retrieved on April 5, 2021 from https://gkml.samr.gov.cn/nsjg/xwxcs/202102/t20210207_325970.html.

necessary to clarify the theory of comparative advantage, and emphasizes the strength comparison between platforms and their operators. Compared with the high standard of the dominant market position theory, CATC focuses on specific transactions. Moreover, CATC is easier and more effective in regulating the deprivation abuse generated on platforms. Therefore, it is feasible to apply Article 35 of the *E-Commerce Law* to protect the interests of operators, as it is based on the premise that there exists a dependent market economy structure. In the current two-sided platform economy, the platform firms have the absolute advantage compared to the sellers because of the platforms' power. Given the current difficulties in the application of CATC, corresponding departmental regulations should be issued, specifying the identification standards and constitutive requirements of the CATC, and bringing it into the anti-monopoly regulation system. In addition, the AML enforcement departments should strengthen the examination of platforms' abuse of their relatively advantageous positions. It should be noted that the platform and sellers have equal legal status as commercial subjects, hence there is a need to distinguish the identification of abuse of comparative advantage from normal, commercial consultation. Therefore, the premise of applying Article 35 of the *Electronic Commerce Law* is to classify and protect the operators and focus on protecting small and medium sellers.

References

Akter, S., & Wamba, S. F. (2016). Big data analytics in e-commerce: A systematic review and agenda for future research. *Electron Markets, 26*, 173-194.

Albert-László, B. M. (2012). *Bursts: The hidden pattern behind everything we do, from your e-mail to bloody crusades*. (M. Hui, Trans.). Beijing: China Renmin University Press.

Alibaba Group. (2019). *Intellectual property protection report.* Retrieved February 3, 2021 from https://ipp.Aligroup.com/infoContent.htm?skyWindowUrl=AACA-mediaCenter-right/cn

Asia Financial. (2021, October 8). *China fines delivery giant Meituan $527m for monopolistic abuses.* Retrieved October 29, 2021 from https://www.asiafinancial.com/china-fines-delivery-giant-meituan-527m-for-monopolistic-abuses

Brodley, J. F., Bolton, P., & Riordan, M. H. (2000). Predatory pricing: Strategictheory and legal policy. *Georgetown Law Journal, 88*, 2239-2330.

Bucher, T. (2012). Want to be on the top? Algorithmic power and the threat of invisibility on Facebook. *New Media & Society, 14*(7), 1164-1180. Retrieved from https://doi.org/10.1177/1461444812440159

Chen, B. (2018). The competition law attribute and regulation significance of big data. *Law, 8*, 107-123.

Chen, B. (2020). Responding to the challenge of super platform to the regulation of anti-monopoly law. *Law, 2*, 103-128.

Chen, B., & Lin, S. Y. (2021a). Internet platform monopoly governance mechanism. *China Circulation Economy, 6*, 37-51.

Chen, B., & Lin, S. Y. (2021b). Regulation of ecological monopoly of Internet platform driven by "data + algorithm". *Intellectual Property, 8*, 43-64.

China: Consumers' Association. (2018, November 28). China consumers' association released "100 apps personal information collection and privacy policy evaluation report" in Beijing. Retrieved October 8, 2021 from http://www.cca.org.cn/zxsd/detail/28309.html

Ciaccia, C. (2021, October 21). DiDi Chuxing: The Chinese ride-sharing giant. *Investopedia*. Retrieved from https://www.investopedia.com/articles/small-business/012517/didi-chuxing.asp

Congressional Research Service. (2021, March 9). The digital divide: What is it, where is it, and federal assistance programs. Retrieved June 1, 2021 from https://sgp.fas.org/crs/misc/R46613.pdf

Dali Finance. (2020). Takeaway riders are stuck in algorithms, Meituan is stuck in interests. Retrieved from https://www.codetd.com/en/article/12185101

Ding, X. D. (2020). On the legal regulation of algorithm. *China Social Science, 41*(12), 138-159.

Ezrachi, A., & Stucke, M. E. (2017). Artificial intelligence & collusion: When computers inhibit competition. *SSRN Electronic Journal, 5*, 1781-1796. Retrieved from https://www.illinoislawreview.org/wp-content/uploads/2017/10/Ezrachi-Stucke.pdf

Finance, D. (2020, September 9). Takeaway riders are stuck in algorithms, Meituan is stuck in interests. *CSDN*. Retrieved June 10, 2021 from https://blog.csdn.net/weiqihang/article/details/108554177

Fleming, M. (October 2015). Digitalization changes everything: Improving economic measurement in an era of radical innovation and transformation. *Monthly Labor Review, 47*, 48-51. Retrieved from https://doi.org/10.21916/mlr.2015.41

Gray, J., & Rumpe, B. (2015). Models for digitalization. *Softw Syst Model, 14*, 1319-1320. Retrieved from https://doi.org/10.1007/s10270-015-0494-9

Höppner, T. (2019, March 4). Data exploiting as an abuse of dominance: The German Facebook decision. Retrieved from http://dx.doi.org/10.2139/ssrn.3345575

Hovenkamp, H. (2021). Antitrust and platform monopoly. *SSRN Electronic Journal, 130*(8), 1952-2273. Retrieved from https://www.yalelawjournal.org/article/antitrust-and-platform-monopoly

Hunt, S. D., & Morgan, R. M. (1995). The comparative advantage theory of competition. *Journal of Marketing, 59*(April), 1-15.

Jao, J. (2013). Why big data is a must in ecommerce. Retrieved from http://www.bigdatalandscape.com/news/why-big-data-is-a-must-inecommerce

Jin, S. M. (2018). The limits of economic analysis in the interpretation of anti-monopoly law. *Global Law Review, 40*(6), 101-116.

Just, N., & Latzer, M. (2017). Governance by algorithms: Reality construction by algorithmic selection on the internet. *Media, Culture & Society, 39*(2), 238-258. Retrieved from https://doi.org/10.1177/0163443716643157

Khan, L. M. (2017). Amazon's antitrust paradox. *Yale Law Journal, 3*, 710-805.

Liu, P., & Chi, Z.-J. (2019). Ethical issues of algorithms and their solutions. *Journal of Northeastern University (Social Science), 21*(2), 118-125. Retrieved from http://xuebao.neu.edu.cn/social/EN/Y2019/V21/I2/118

Luo, Y., Liu, V., & Danescu, I. (2018). China takes the lead on regulating novel technologies: New regulations on algorithmic recommendations and deep synthesis technologies. Posted in *Artificial Intelligence (AI), big data, china, data security, emerging technologies.* Retrieved February 8, 2022 from https://www.insideprivacy.com/artificial-intelligence/china-takes-the-lead-on-regulating-novel-technologies-new-regulations-on-algorithmic-recommendations-and-deep-synthesis-technologies/

Ma, C. S. (2018). Legal reform in the age of intelligent internet. *Chinese Journal of Law, 40*(4), 159.

Mayer-Schönberger, V., & Cukier, K. (2012). *Big data: A revolution that will transform how we live, work and think*. London: John Murray.

Miao, S. (2019, August 12). The major adjustment of Taobao platform rules today affects over 10 million stores and 650 million people. Official Wechat Account of "Electronic Commerce Research Center".

National People's Congress of the People's Republic of China. (2021, October 25). *Draft amendment to the anti-monopoly law*. Retrieved October 28, 2021 from http://www.npc.gov.cn/flcaw/flca/ff8081817ca258e9017ca5fa67290806/attachment.pdf

OECD. (2017). Algorithms and collusion: Competition policy in the digital age. Retrieved from http://www.oecd.org/competition/algorithms-collusion-competition-policy-in-the-digital-age.htm

Palmer, M. (2006). Data is the new oil. *ANA Marketing Maestros*. Retrieved November 3, 2006 from http://ana.blogs.com/maestros/2006/11/data_is_the_new.html

Parker, J. (2000). *Total surveillance: Investigating the big brother world of e-spies, eavesdroppers and CCTV*. London: Piatkus.

Qian, B. J. J. G. (2021, March 19). Central ministries and commissions successively "set up regulations", and a new round of anti-monopoly on the platform economy kicks off. *Economic Information Daily*. Retrieved May 21, 2021 from http://www.jjckb.cn/2021-03/19/c_139821074.htm

Rader, E., Cotter, K., & Cho, J. (2018). Explanations as mechanisms for supporting algorithmic transparency. In *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems* (bLL 1-13). doi:10.1145/3173574.3173677

Rochet, J. C., & Tirole, J. (2003). Platform competition in two-sided markets. *Journal of the European Economic Association, 1*(4), 990-1029.

Shanghai Changning District People's Court. (2017). *Civil judgment of Shanghai 0105 early republic of China.*

Shi, J. Z., & Yang, D. (2020). Research on the boundary between platform self-governance and anti-monopoly regulation from the perspective of dual identity. *Competition Policy Research, 6*(4), 41-53.

Similarweb. (July 2020). Worldwide e-commerce and shopping category performance. Retrieved April 21, 2015 from https://pro.similarweb.com/#/industry/overview/E-commerce and Shopping/999/1m/?webSource=Total

Sina Finance. (2021, May 10). Meituan's high commissions lead to "public anger" and local catering associations take turns to revolt. Retrieved May 10, 2021 from http://finance.sina.com.cn/wm/2020-04-12/doc-iircuyvh7361015.shtml

State Administration for Market Regulation. (2020, January 2). *Announcement of the state administration for market supervision on public consultation on the "anti-monopoly law" revision draft (draft for public comment).* Retrieved December 18, 2020 from http://www.samr.gov.cn/hd/zjdc/202001/t20200102_310120.html

State Administration for Market Regulation. (2021a, April 10). *The state administration for market regulation has holdings limited's online retail platform in China administrative penalties for the implementation of "two election one" monopoly in the service market.* Retrieved April 11, 2021 from http://www.samr.gov.cn/xw/zj/202104/t20210410_327702.html

State Administration for Market Regulation. (2021b, February 7). *Promote the standardized, orderly, innovative and healthy development of the platform economy—Interpretation of the anti-monopoly guidelines of the anti-monopoly commission of the state council on the platform economy.* Retrieved April 5, 2021 from https://gkml.samr.gov.cn/nsjg/xwxcs/202102/t20210207_325970.html

Stucke, M., & Grunes, A. (2016). *Big data and competition policy*. Oxford: Oxford University Press.

Taobao. (2019a, May 6). Taobao's implementation rules on disrupting market order. Retrieved December 3, 2020 from https://rule.taobao.com/detail-518.htm

Taobao. (2019b, May 6). Taobao's implementation rules on the sale of counterfeit commodities. Retrieved December 3, 2020 from https://rule.taobao.com/detail-506.htm

The research report on intellectual property development of China's e-commerce. (2019). Retrieved September 9, 2019 from http://www.cnipa-ipdrc.org.cn/UpLoad/2019-12/20191213175752.pdf

Tucker, C. (2018). Network effects and market power. *Antitrust, 32*(2), 72-79. Retrieved from http://sites.bu.edu/tpri/files/2018/07/tucker-network-effects-antitrust2018.pdf

Tucker, C (2019). Digital data, platforms and the usual [Antitrust] suspects: Network effects, switching costs, essential facility. *Review of Industrial Organization, 54*, 683-694.

Tucker, C. (2020). Digital infrastructure: Does the "coring" of digital platforms make them part of digital infrastructure? In E. L. Glaeser and J. M. Poterba (Eds.), *Economic analysis and infrastructure investment*. Chicago: University of Chicago Press.

Turnovsky, S. J., Shalit, H., & Schmitz, A. (1980). Consumer's surplus, price instability, and consumer welfare. *Econometrica, 48*(1), 135-152. Retrieved from https://doi.org/10.2307/1912022

United States House of Representatives. (2020). *Investigation of competition in digital markets*. Retrieved March 1, 2021 from https://judiciary.house.gov/uploadedfiles/competition_in_digital_markets.pdf?utm_campaign=4493-519

Van Loo, R. (2020). The new gatekeepers: Private firms as public enforcers. In *106 Virginia Law Review* (p. 467). Boston: Business Organizations Law Commons. Retrieved from https://scholarship.law.bu.edu/faculty_scholarship/800

Wang, J. (2019, October 20). Ali Baba vice president Yu Siying: Algorithm innovation has become a high ground for global innovation. *Beijing News*. Retrieved April 15, 2021 from https://www.bjnews.com.cn/detail/157155880815474.html

Wu, T. (2018). *The curse of bigness: Antitrust in the new gilded age.* New York, NY: Columbia Global Reports.

Yang, D. (2020). On the reconstruction of anti-monopoly law: Responding to the challenges of the digital economy. *China Legal Science, 37*(3), 206-222.

Yang, D., & Li, Z. S. (2021). Supervising technology giants: Re-examination of technology power as the determining factor of market dominance. *Academic Monthly, 65*(8), 92-105.

Zrachi, A., & Stucke, M. E. (2018). eDistor-tions: How data-opolies are dissipating the internet's potential. In *Digital platforms and concentration*. Retrieved October 6, 2021 from https://promarket.org/wp-content/up-loads/2018/04/Digital-Platforms-and-Concen- tration.pdf