

A Study on the Definition and Antitrust Regulation of Intellectual Property Abuse in the Age of Digital Economy: A Structuralist Perspective

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Abstract: With the rapid development of the digital economy, digital platforms display distinctive features such as multilateral markets, network effects and data-driven, which have reshaped the market structure in the field of digital intellectual property rights. This change has also brought about challenges such as the difficulty of defining and regulating intellectual property antitrust, especially as some platform enterprises holding a large number of intellectual property rights have utilized their own advantages to seek monopoly benefits, exacerbating the unfairness of market competition. New Structuralism believes that antitrust law should not be limited to considerations of consumer welfare, but should pay more attention to pluralistic values, competitive structure and competitive process, and build a system of checks and balances in the commercial and economic fields. Structural factors such as the size of the enterprise, the number of business users and end-users, and market barriers should be taken into account when judging IPR abuses. In addition, in order to more effectively conduct antitrust regulation of IPR abuses in the era of the digital economy, the special challenges of the digital economy can be addressed through measures such as strengthening the interface between ex ante and antitrust regulation of platforms.

Keywords: Intellectual property abuse; Behavioral definition; Antitrust regulation; Structuralism

1. Introduction

With the rapid expansion of digital platforms, the Matthew effect has intensified, triggering the creation of monopoly power in the platform economy. Digital enterprises holding a large number of intellectual property rights use the intellectual property rights in their possession to seek monopoly interests, which also brings brand-new challenges to intellectual property anti-monopoly regulation. In the era of digital economy, although China has adopted certain anti-monopoly regulatory measures in the field of intellectual property rights, these measures still show certain limitations in actual operation, and need to be further improved and optimized to meet the new needs of the development of digital economy. Article 68 of the Anti-Monopoly Law of the People's Republic of China (hereinafter referred to as the "Anti-Monopoly Law") contains principle provisions on the application of the Anti-Monopoly Law in the field of intellectual property rights, i.e., "Acts of operators exercising their intellectual property rights in accordance with the provisions of the laws and administrative regulations relating to intellectual property rights shall not be subject to the application of this Law; however, acts of operators abusing intellectual property rights to exclude or restrict competition shall be subject to the application of This Law". This provision only serves as a principle and cannot be directly applied to the practice of anti-monopoly on intellectual property rights. How to define the behavior of abusing intellectual property rights to exclude or restrict competition and guide operators to use intellectual property rights legally in practice requires the relevant departments to formulate relevant regulations or guidelines to deal with it. Although the Anti-Monopoly Committee of the State Council's Anti-Monopoly Guidelines in the Field of Intellectual Property Rights (hereinafter referred to as the Guidelines) and the Regulations on Prohibiting the Abuse of Intellectual Property Rights to Exclude or Restrict Competition (hereinafter referred to as the Regulations) have been promulgated successively, they still reflect that the anti-monopoly regulations in the field of intellectual property rights still need to be further elaborated to better adapt to and cope with the complex realities.

2. The Context and Development of Structuralist Competition Theory

2.1. Connotations of Structuralist Competition Theory

Structuralist school based on the neoclassical school of price theory, empirical research as the main means to decompose the industry into a specific market, according to the structure, behavior, performance of the three aspects of its analysis, constructed a both in-depth specific links, but also has a systematic logical system of the market structure (Structure) - market behavior (Conduct) - market performance (Performance) analysis framework, known as the SCP framework. The analysis framework of market structure - market behavior (Conduct) - market performance (Performance) is called SCP framework. ^[1]The structuralist school of thought asserts that market structure has a decisive influence on the behavior of operators and the way of profit maximization. By examining market structure it is possible to predict the anticompetitive behaviors that operators may engage in and the damaging consequences they may have. This theory emphasizes the extent to which market performance is affected by market structure and advocates the goal of preserving competition by regulating market structure.

2.2. The Resurgence of Neo-Structuralism

Between the 1970s and the end of the twentieth century, structuralism experienced a revival after a period of dormancy, with structuralism based on the neoclassical school gradually being replaced by behaviorism based on economic liberalism and social Darwinism in the 1970s. At the end of the twentieth century, due to the rise of the Internet economy and the monopolistic behavior of technology giants, the European Union introduced the Digital Marketplace Act and the "gatekeeper" system, marking the return of structuralism.

Firstly, antitrust law should not focus solely on consumer welfare, but on multiple values. ^[2]Consumer welfare standards crystallized in practice as price-centric welfare standards have limitations in the context of the digital economy. Digital platforms, due to their network effects, multilateral markets and economies of scale, often adopt unbalanced pricing strategies in pursuit of higher monopoly benefits. The price-centered consumer welfare criterion to determine whether a company has market power is facing failure. ^[3]

Secondly, antitrust should focus on the structure and process of competition, not just the outcome of competition. Consideration of the process and structure of competition in the market becomes particularly important in the context of the digital economy, especially when prices are difficult to reflect the state of competition in digital firms. Focusing on the process of competition and the structure of the market is a better way to visualize competition than measuring the abstract value of welfare. Some competitive behaviors in the digital economy, such as "merger hunting", may increase consumer welfare in the short run, but in the long run they may raise market entry barriers and reduce incentives to innovate.

Finally, a system of checks and balances should be put in place in business and economics. The behaviorist school advocates that law enforcement should encourage and support efficient competition and intervene only when competition is inefficient, advocating less government intervention. ^[4]In the digital economy, digital platforms with dominant market positions have exacerbated the Matthew effect by leveraging their resources so that large amounts of data and resources are aggregated on these platforms, creating high barriers, which pose a serious impediment to the development and innovation of start-ups. IPR abuses have become more serious in this context, and firms with dominant market positions may use IPRs to exclude competitors and restrict innovation, thereby jeopardizing fair competition in the market. The neo-structuralist school advocates a public regulatory system that focuses on the regulation of headline firms, as opposed to the unbundling approach advocated by the structuralism of the last century.

2.3. Structuralist Parameters of Representation

Competition is a structural issue. To determine whether an industry is competitive, it is important to look not only at market conduct or market performance, but also at whether the market structure of the industry is highly concentrated, whether it is in fact controlled by one or several oligopolies, and whether barriers to entry into the industry are so high as to stifle the entry of new competitors into the industry. ^[5]In this regard, the following factors should still be taken into account in determining IPR abuses in the context of the digital economy according to the structuralist school of thought: (1) the scale of the enterprise, including turnover, market capitalization, the operating status and market position of the core

platform services; (2) the number of business users and end-users relying on the platform business; (3) the barriers to entry due to the network effect and the advantage of data, especially those related to the ability of the platform (3) barriers to entry due to network effects and data advantages, especially those related to the ability of the platform business to acquire and analyze data; (4) the scale and scope of revenues obtained by the platform business; (5) the lock-in effect of users; and (6) other structural characteristics of the market.^[6]

3. Defining Intellectual Property Misuse from a Structuralist Perspective

3.1. Monopoly agreements Definition

Firstly, the subjective elements should be analyzed to determine whether there is a competitive relationship between the subjects in order to define the type of monopoly agreement reached between the subjects. Digital platforms are both active participants and play the role of managers in market competition. When there is a competitive relationship between the subjects of the agreement, the IPR agreement reached by them is more likely to have the effect of excluding and restricting competition than the subjects of the agreement in a non-competitive relationship. In addition, the nature of the agreement determines what kind of monopoly agreement provisions apply, providing an important basis for judgment.

Secondly, the objective element should analyze whether the subject of the agreement has implemented exclusive licensing, price fixing, limiting the quantity of production or sales, dividing the market, joint boycotts, limiting the resale of low-priced goods, patent pooling and other acts.

Finally, the competitive harm caused by the outcome element should be smaller than the monopoly benefits obtained. Some restrictions on competition in IP licensing may, in their own way, increase economic efficiency while reducing the degree of competition. In particular, the increased incentive to innovate that the restriction creates by increasing the licensee's expected revenue becomes an important factor in weighing the legality of the restriction on competition.^[7] In the digital economy, where prices are difficult to reflect the state of competition in the market, the focus should be specifically on structural factors such as market entry barriers, conflicts of interest, gatekeepers and industry bottleneck firms, use and control of data, and dynamization of pricing power.

3.2. Abuse of a dominant market position Definition

In determining whether a digital platform has abused its dominant market position, firstly, a demand substitution analysis is used to define the relevant market.^[8] When defining the relevant goods market in individual cases, the relevant goods market is usually defined according to the goods on one side of the platform; it is also possible to define multiple relevant goods markets separately according to the multilateral goods involved in the platform.^[9] However, digital platforms are characterized by multilateral markets, which involve several different user groups, and the number or behavior of users will affect the utility and participation of users on the other side. Defining relevant markets from the perspective of consumers is more applicable in the context of the digital economy. The neo-structuralist school of thought does not exclude the inclusion of consumer welfare when conducting antitrust analysis, but rather, multiple values should be considered. In the digital economy, it is more beneficial to analyze the relevant market definition in terms of consumers' level of payment, their interest in product diversity, product quality, choice of products, privacy protection and other factors.

Secondly, it is necessary to determine whether the digital platform has a dominant position in the relevant market. Traditional market dominanceThe traditional market dominance determination criteria mainly include market share criteria, market entry barrier criteria and behavioral criteria. In the context of digital economy, the competitive situation of digital platform enterprises is related to network effect, multilateral market, economy of scale and lock-in effect, etc. When judging whether the digital platform has a dominant position in the market, it should be combined with the "market entry barrier standard" and "behavioral standard" to judge. In judging whether a digital platform has a dominant market position, it should combine the "criteria of market entry barriers" and "behavioral criteria". Specifically, it can be analyzed in terms of the number of commercial users and end-users relying on the platform's business, the number of related market sectors, the difficulty of resource flow, the cost of switching user platforms, and the barriers to entry under the network effect and the data advantage, among other factors.

Finally, it was determined whether the digital platform had abused its dominant market position. In

China's current laws, abusive acts of intellectual property rights are usually tying, restricting competition, price fixing, refusing licenses, setting monopolistic high prices, excessive pricing and exclusive licensing. However, the key to determining the abuse of dominant market position behavior is to see whether it has caused actual damage to market competition. Even if a digital platform exhibits certain forms of market-dominant behavior, it should not be found to be an abuse of a dominant market position if it does not materially restrict competition, diminish consumer welfare or reduce market efficiency.

3.3. Definition of operator concentration

In the face of the disorderly expansion of capital and the gradual growth of digital platforms, the relevant departments have introduced corresponding policies and regulations to regulate them. China has adopted a mandatory declaration system of prior declaration, and if the concentration of operators reaches the declaration standard stipulated by the State Council, the operators should declare to the State Council's anti-monopoly agency (referring to the General Administration of Market Supervision) in advance, and those who have not declared are not allowed to implement the concentration. According to the State Council's Provisions on the Reporting Standards for Operators' Concentrations, as amended in 2023, the reporting standard is the turnover of the previous fiscal year, of which the reporting threshold is "the turnover of at least two operators in China for the previous fiscal year exceeds 800 million yuan", which has increased by 400 million yuan in comparison with the standard of 2008, and the standard is In the case of a large digital platform acquiring a start-up, the start-up will not be subject to the antitrust law in order to meet this reporting standard. The degree of concentration of the market and its changes is a key indicator to measure whether an M&A transaction needs to be subject to operator concentration review and whether the M&A will be approved. In order to make up for the shortcomings of the current legislation and to reduce the risk probability of errors, the traditional turnover standard can be supplemented with the market capitalization (or valuation) of the startup, the user size, the traffic size standard, and the transaction amount in combination with the characteristics of the acquisition of startups by mega-platforms. ^[10]At the same time, when investigating and obtaining evidence of the illegality of the merger and acquisition combined with prior supervision, targeted investigations can be conducted for the relevant market, for example, the antitrust of the head digital music platform can be examined to review the number and quality of music copyrights it has obtained, the duration of exclusive authorization, and other factors for a comprehensive assessment.

4. Antitrust Regulatory Path of Intellectual Property Abuse in the Age of Digital Economy

4.1. Strengthening the platform's ex ante regulatory mechanism to improve the efficiency of antitrust regulation

Firstly, identifying large digital platforms. Drawing on the criteria for identifying gatekeepers under Article 3 of the EU's Digital Market Law, large digital platforms are identified through the "market size identification - control size identification - market dominance identification" of digital platforms, which is combined with the market barriers to entry, the effective competition situation, It analyzes the relevant market structure in conjunction with the four structural criteria of market entry barriers, effective competition, effectiveness of antitrust regulation and cost-benefit analysis, and determines whether or not to introduce such digital platforms into ex ante regulation.^[11]

Secondly, drawing on the regulatory measures adopted in the ex ante regulatory legislative regimes of the European Union and the United States for specific behaviors of large digital platform enterprises. For conducts such as self-preferential treatment, discriminatory platform terms, exclusive dealing, clauses, unauthorized integration of data from multiple sources, and mandatory bundling, these legislations usually apply the proximity per se violation principle, meaning that these conducts are in most cases considered illegal and subject to strict prohibitions. For some other behaviors, such as general bundling or tying, denial of data access or compatibility, restriction of interoperability, obstruction of data portability, and discriminatory data access, the legislation may apply the principle of defensible per se violation. If platform companies can provide credible evidence to prove that their actions have significant efficiency effects, then these actions should not be found to be unlawful.

4.2. Improving the regulatory system of intellectual property rights to ensure fair competition in the market

Firstly, establishing an independent anti-monopoly enforcement department for intellectual property

rights. The effectiveness of the State Administration for Market Supervision and Administration's enforcement in regulating IPR abuses has not been significant due to excessive decentralization, local protectionism, the breadth and complexity of IPR-related fields, and the lack of enforcement experience. Consideration can be given to setting up a department or bureau within the State Administration for Market Supervision and Administration specifically responsible for the formulation and enforcement of rules related to intellectual property antimonopoly.

Secondly, increasing penalties for the abuse of digital intellectual property rights. China's penalties for IPR abuse still need to be strengthened, and the amount of fines is often insufficient to create a sufficient deterrent effect. In this regard, reference can be made to the triple damages system in the U.S. In anti-monopoly cases, the amount of compensation required from the infringer should be twice the actual loss it has caused to the victim. By significantly increasing the amount of compensation, not only can it significantly increase the illegal cost of the infringer and thus enhance the deterrent effect of the law, but it can also incentivize the infringed to actively defend their legitimate rights and interests through legal channels.

4.3. Improvement of the criteria for prior declaration of concentration of operators to ensure the effective implementation of the Antimonopoly Law

Firstly, include the market capitalization of start-ups in the criteria for prior filing. In traditional industries, financial indicators such as revenue and net profit have a significant impact on the assessment of an enterprise's market capitalization. However, in the digital economy, the growth of a company's market capitalization often far exceeds the growth of its revenue. Compared to turnover, which only shows the short-term market power of an enterprise, market capitalization is obviously a more accurate reflection of the innovative value of a startup and its future development potential. Some startups with core technologies and large amounts of user data may be able to expand rapidly through mergers and acquisitions, concentration, etc., and emerge quickly and impact the existing market structure.

Secondly, incorporate user scale and traffic size into the prior filing criteria. User scale and traffic scale occupy a central position in measuring the market value of digital platforms^[12], because the lock-in effect, network effect and high market entry barriers of digital platforms require a large user base to support them. By accumulating user data, digital platforms can enhance their market competitiveness and realize more efficient business strategies. Therefore, the inclusion of user size and traffic size in the pre-declaration criteria will help regulators to identify and prevent potential monopolistic behavior at an earlier stage and ensure healthy and fair competition in the digital market.

5. Conclusion

In the era of digital economy, digital platforms, by virtue of their unique operation mode and technological advantages, are often prone to form a "winner-takes-all" Matthew effect, resulting in the head platform in the market continuously expanding its market share and gradually moving towards monopoly status. This phenomenon not only undermines the fair competition mechanism in the market, but also may harm the interests of consumers. For this reason, the new structuralism school advocates an in-depth analysis of the relationship between market structure and market behavior and the adoption of corresponding intervention measures. An effective system of checks and balances should be constructed in the commercial and economic fields to prevent and correct anti-competitive behaviors and to ensure the healthy development of the market and the protection of consumer rights and interests. Such a system of checks and balances should be based on in-depth market research, a clear regulatory framework and strengthened enforcement to promote the sustainable development of the digital economy.

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