

# **Analysis of Monopoly in Platform Economy and Suggestions for Countermeasures**

Xuanming Na\* and Yulong Ma

Department of Law and Politics, North China Electric Power University, Beijing, China

ncepunxm@ncepu.edu.cn

\*corresponding author

**Keywords:** Network Externality; Network Intersectionality; User Viscosity; Platform Monopoly

**Abstract:** In the digital era, the development of platform economy can no longer be ignored. Platforms take advantage of the Internet to connect multilateral users and have the characteristics of bilateral markets: asset-light, high user stickiness, and highly prone to monopoly by taking advantage of network externalities and network crossover. Monopoly situations mainly include: abuse of dominant market position, excessive mergers and acquisitions, data monopoly, etc. In recent years, governments have started to strengthen their regulation, but they still face difficulties in defining the market domain and defining the abuse of monopoly status. Based on the analysis of monopoly in platform economy, this paper proposes strategies such as regulatory front-loading, dynamic monitoring, clarifying data standards, improving data trading system, introducing new platforms and stimulating market vitality to promote healthy economic development and provide new ideas for government regulation.

## **1. Introduction**

### **1.1 Study on the Background**

Thanks to the development of Internet technology and mobile Internet technology, the platform economy has developed rapidly in recent years due to the decline in transaction costs and search costs brought about by network technology. These characteristics of platforms, such as linking multilateral users and matching multiple network organizations, have enabled platform-based enterprises to gather a large amount of discrete information on the supply and demand sides[1].

However, at the same time, monopoly problems such as compulsory tying and "two-for-one" are also highlighted in the rapid development of the platform economy. The emergence of monopoly problems can only harm the basic interests of merchants and consumers on the platform and reduce the welfare of the whole society. 2020, the government has been strengthening anti-monopoly regulation of capital disorderly expansion and unfair competition in some areas, including oblique expansion (i.e., cross-border), special agreements such as exclusive agreements (e.g., "two-for-one"), and special competition strategies such as competitive ranking. and pricing strategies, such as competitive ranking, have begun to be regulated.

The platform economy relies on digital platforms supported by efficient data collection and transmission systems, well-developed computing power and powerful data processing algorithms, which have greatly contributed to the development of social productivity[2, 3]. Platform ecology is the core trend of the development of China's digital economy, which is manifested by many small industry platforms relying on the massive user resources gathered by a large platform to quickly open up the upstream and downstream of the industry, transforming and forming a new industry ecosystem[4]. But the strategic behavior of platforms in a competitive environment can exacerbate information asymmetry in the market. In the platform economy, the legal status of the platform, labor relations, and competition laws are the core issues in the regulation of the sharing economy[5, 6]. At present, the technical characteristics of digital platforms have shaped an imperfect competition situation. The traditional economy may be quickly squeezed out of the market under

the impact of the digital economy, and the platform economy with the digital economy as the core gradually becomes the mainstay. Due to the network factor, potential entrants face high barriers, and consumer welfare and total social welfare will be difficult to be maximized under the competitive landscape. From past studies, most scholars advocate collaborative governance from both sides of the platform government, and autonomy on the platform side by using a combination of laws and system norms. The government needs to maintain a prudent attitude towards the regulation of platforms and the application of relevant laws. Coordinate the relationship between platform autonomy and government co-governance, and make precise policies for digital platforms[7-9]. The object of regulation of platform economy should also gradually shift to the regulation of basic services, including the level of responsibility determination of the platform, the issue of attribution of data and the fight against unfair competition[10]. As for the problem of cross-border competition in some enterprises, we should avoid excessive intervention on the one hand, and pay attention to the emerging improper behaviors on the other hand, and dynamically incorporate them into the scope of anti-monopoly law regulation.

## **2. Domestic and Foreign Research Status**

### **2.1 Two-sided Market Theory**

The concept of bilateral market has been around for more than 170 years since the "penny newspaper" movement started in 1833 in the U.S. Rochet and Tirole define a bilateral market as "when the total level of prices  $P = P_B + P_S$  demanded by the platform from both sides remains unchanged ( $P_B$  is the price of user B and  $P_S$  is the price of user S), any change in the price of the user side will have a direct impact on the total demand and volume of transactions on the platform. ( $P_B$  is the price of user B and  $P_S$  is the price of user S), any change in the user-side price has a direct impact on the total demand and volume of transactions on the platform, and this platform market is called a bilateral market." According to the bilateral market theory, the development model of platform economy is to connect the two ends of users through the Internet platform and play the role of a link. The platform itself does not provide the product, but provides intermediary services for both ends and receives intermediary fees from it. One of the most prominent features of the platform economy described in the bilateral market theory is the existence of "cross-network externality" between the users on both sides of the platform, which means that the users on both sides of the platform are attracted to each other, and the number of users accessing one side of the platform and their revenue are affected by the other side of the platform. Due to the different strength of cross-network externality among users, it also causes the difference of pricing between two sides of users, i.e. "asymmetric pricing" of the platform. The platform takes advantage of the cross-network externality to adopt different pricing policies for users with different strengths and weaknesses, so as to maximize its own interests.

### **2.2 Causes**

First, the asset-light model has a low entry barrier. The platform economy invests less assets, which makes the entry threshold of the platform economy low, and on the other hand, makes it easy for platform enterprises to expand their business. At the beginning of development, most of the platform enterprises have only one type of supplier and one type of demander in the bilateral platform model. However, after the platform is built and the number of users on the consumer side is increasing, platform enterprises start to expand new business on the supply side and attract other types of suppliers to access, expanding from bilateral market to multilateral market. The platform companies with traffic keep expanding and gradually form a super platform.

Second, user stickiness is generated. User stickiness means that the transfer cost of users from the original platform to another platform also becomes higher, and users are more inclined to continue trading on the original platform, and the stronger the dependence of users on that platform. User stickiness allows the platform to have more and more users accessing both ends of the platform, increasing its market share in a particular area and reaching a certain monopoly nature.

Third, high-frequency microdata contributes to data concentration. Buyers and sellers interact in the transaction generated a large amount of user information, commodity information and other data, through the capture and analysis of data, so that the platform side has a clearer understanding of user consumption preferences. Some large platforms will also be price discrimination phenomenon. The more data a platform has, the stronger its position in the field, and the more difficult it is for new entrants to enter, thus creating an undesirable cycle.

### 3. Domestic and Foreign Research Status

#### 3.1 Anti-monopoly Dilemma

##### 3.1.1 Market Definition

Due to its unique organizational form, the platform economy is prone to the "snowball effect" after the platform has a certain amount of traffic due to the existence of network externalities at both ends of the platform. A super platform is not a monopoly platform. If a platform takes advantage of its own data to the detriment of users at both ends, it constitutes a platform monopoly.

In the digital era, it is easy for platform companies to start cross-border expansion after having traffic, which is neither simple horizontal nor vertical development, but expansion to multilateral markets, involving a wide range of complex areas and requiring specific analysis.

##### 3.1.2 Abuse of Monopoly Position Definition

In the past, the "Lerner Index" was often used to measure the monopoly power of a platform to determine whether it abused its monopoly position. However, because the pricing of bilateral users by platform companies is easily affected by the strength of network externalities and the price elasticity of products, platforms may adopt free access to users on the other side in order to attract as many users as possible, while the adopted charging policy is compensating for the price loss of the free port.

Moreover, it is more and more difficult to define because it also needs to consider the remaining amount of users at both ends and the general welfare of the society.

#### 3.2 Case Status

**Table 1.** Case

	Time	Country	Enterprises involved	Case
Abuse of market Dominant position	2015	China	JD, TMALL	JD sues Tmall for taking advantage of its own city and forcing users to choose between the two, ultimately awarding Tmall damages
Over merger and acquisition	2018	Singapore	Uber, Grab	Uber 's South-East Asia business unit merged with Grab, which Singapore regulators believe will raise costs, punish them and limit their scope.
Data monopoly	2018	China	Didi	The platform collects consumer information by hand, predicts consumer psychological expectations, and implements one-person-one-price

### 4. Program Recommendations

#### 4.1 Regulatory Front, Commercial Dynamic Monitoring

For the monitoring of platform companies, often after the fact supervision mode, in some larger companies appear to abuse market position, the regulatory authorities began to take action to investigate and collect evidence, the investigation process not only lasted a long time, the huge investment, but also to both ends of the user welfare losses.

Therefore, for the platform supervision should be monitored before the substance occurs, all

kinds of acquisitions and mergers in advance of the record, timely tracking, are conducive to later control. At the same time due to the Internet ecology on the traditional change, the industry access threshold and market entry enterprises to other tolerance should also be included in the monitoring considerations.

#### **4.2 Clarify Data Standards and Improve Data Trading System**

Industrial Internet, big data trading platform, etc. have become an important platform for the realization of the current digital economy. The quantitative increase of various categories of data transactions requires a more perfect data transaction protection system for protection, and the corresponding data as well as all kinds of technical means should become a powerful tool to solve problems such as information asymmetry, instead of becoming an accomplice to aggravate the barriers. Promote the sustainable and healthy development of data trading ecology.

At the same time, the pricing algorithm of the big data platform needs to be defined and studied to clarify the standards and prevent algorithmic collusion, and the regulator needs to actively take responsibility for the use of user data for legal and reasonable guidance.

#### **4.3 Introducing New Platforms to Stimulate Market Dynamics**

Before the emergence of "super platforms", government departments should provide timely warning and create an environment conducive to the growth of new enterprises. For example, in the field of public goods provision, since the first entrants already have a fixed number of users and have developed user viscosity, government departments can introduce favorable policies for the later entrants, so that certain resources will be inclined to the later entrants and a competitive market environment will gradually be formed, which will reduce the probability of monopoly in the field of public goods provision.

#### **References**

- [1].Adner R, Chen J, Zhu F. Frenemies in platform markets: Heterogeneous profit foci as drivers of compatibility decisions[J]. *Management Science*, 2020, 66(12): 2432- 2451
- [2].Belavina E, Marinesi S, Tsoukalas G. Rethinking crowd funding platform design : Mechanisms to deter misconduct and improve efficiency[J]. *Management Science*, 2020, 66(11): 4980-4997
- [3].Bimpikis K, Candogan O, Saban D. Spatial pricing in ride sharing Networks[J]. *Operations Research*, 2019, 67(03): 744-769
- [4].Foerderer J. Interfirm exchange and innovation in platform ecosystems: Evidence from Apple's worldwide developers conference[J]. *Management Science*, 2020, 66(11): 4772-4787
- [5].Benjaafar S, Kong G, Li X. Peer-to-Peer product sharing: Implications for ownership, usage, and social welfare in the sharing economy[J]. *Management Science*, 2020, 66(11): 477-493
- [6].Jiang B, Tian L. Collaborative consumption: Strategic and economic implications of product sharing[J]. *Management Science*, 2018, 64(03): 1171-1188
- [7].Katz M, Sallet J. Multisided platforms and antitrust enforcement[J]. *Yale Law Journal*, 2018, 127: 2142-2175
- [8].Moore M, Tambini D. Digital dominance: The power of Google, Amazon, Facebook and Apple[M]. Oxford University Press, 2018: 670- 684
- [9].Fussenegger G, Robertson V H S E. The role of antitrust authorities regarding the digital economy (Graz Law Working Paper No.02-2020)[R/OL].(2020-09-10)[2021-04-15]. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3701206](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3701206)
- [10].Parker G, Van Alstyne M W. Innovation, openness, and platform control[J]. *Management Science*, 2018, 64(07):3015 -3032