

Research on the Development and Innovation of Economic Theory in the Digital Economy Era

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ABSTRACT

In the research on the development and innovation of economic theory in the digital economy era, we choose to start from the platform economy anti-monopoly, which is currently an extremely important and more concerned issue. By explaining the differences between the platform economy and the traditional unilateral economy, as well as the deficiencies and improvements of traditional anti-monopoly economic theories in dealing with platform anti-monopoly issues, it emphasizes the importance of "decoupling" between the latest relevant economic theories and platform anti-monopoly practices. The key to solving this problem is to grasp the two basic characteristics of platform economy cross-network externality and price non-neutrality. At the same time, in the short term, we should pay attention to the characteristics of platform anti-monopoly cases. The practice of monopoly and the healthy development of the market.

KEYWORDS: *platform economy; cross-network externality; price non-neutrality; antitrust*

INTRODUCTION

When it comes to the digital economy, especially the bilateral platform economy, perhaps people around the world have never had such a deep understanding of it as in the past year or so. Affected by the global spread of the new crown epidemic, the economic growth of major economies has shown an overall downward trend in the past period of time, but the platform economy has bucked the trend. Correspondingly rapid development. However, the market's attention to it is not only about development issues, but more about the concerns of various countries about the market competition caused by its expansion. From a global perspective, whether it is the "platform market power" hearing launched by the US House of Representatives against the four major technology giants in August 2020, or the antitrust investigation launched by the State Administration for Market Regulation against platform companies such as Alibaba at the end of 2020, and The introduction of relevant regulations on platform anti-monopoly in early 2021 reflects the urgency of platform anti-monopoly issues. The 18.2 billion astronomical fine issued by the State Administration for Market Regulation on Alibaba on April 10, 2021 further

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proves the seriousness of the platform economic problem. Because before this, my country's anti-monopoly law enforcement agencies have basically not taken significant regulatory measures on the competition of platform enterprises. In contrast, my country is one of the countries with the largest number of platform-based enterprises in the world. Both in terms of quantity and scale, they are at a high level. This leads to such speculation: Why were there so few platform antitrust cases before this? Why are there so few substantive punishments? Are there more difficulties in platform anti-monopoly than traditional anti-monopoly? With these questions in mind, the author will start with the basic steps of anti-monopoly, combined with innovative research on relevant economic theories, to glimpse the difficulties of platform anti-monopoly issues.

Main Difficulties of Platform Economy Anti-monopoly

1. Two important features

Before stating the incompatibility brought by the platform economy to traditional theories, we need to understand some basic characteristics of the bilateral

platform economy, which are the key nodes to grasp the difference between the bilateral platform economy and the traditional unilateral market economy. To grasp the characteristics of the platform economy, we need to focus on two key points, the first is the outside of the cross network, and the second is the non-neutrality of prices. A cross-network externality is when users and quantities on one side of the platform have an impact on users and quantities on the other side of the platform. As far as this article is concerned, the author mainly expounds the positive impact, which is one of the main characteristics of the trading platform, that is, the increase in the number of users and the number of users on one side of the platform will affect the users and the number of users on the other side in the same direction. The common mode of action of cross-network externalities, and e-commerce platforms are a typical representative, which explains why many platform economies actively accumulate the number of users in the early stage and gain first-mover advantages.

Another important feature of the platform economy is price non-neutrality. The so-called price non-neutrality means that the platform does not need to price equilibrium on both sides when pricing. Its price structure is based on the consideration of platform profit maximization, so there will be Free pricing, or even a "negative price" (the platform implements preferential subsidies) conditions. The emergence of this feature will make many traditional economic theories, such as the Arida-Turner rule statement about predatory pricing inapplicable to the platform economy problem, because it proposes that when the price is lower than the average variable cost, it can be determined It has predatory pricing behavior. Obviously, under this theoretical judgment, the pricing model commonly used in the bilateral platform economy is likely to have reached the monopoly boundary, because the "0" price is obviously lower than the average variable cost. Another example is the empirical pricing rule involved in traditional microeconomics. In the process of applying it, we need to find the price elasticity of demand. However, under the "0" price, the relationship between price and quantity makes it difficult for us to determine demand. The curve is derived, so the empirical pricing rule also encounters difficulties in the two-sided market economy.

Statements based on the above two characteristics will help us better understand how the development of economic theory will keep up with the demands of the antitrust reality of the platform economy. It will also allow us to further clarify the problem and identify the "pain points".

2. The basic difficulties of anti-monopoly in the platform economy

Starting from this section, the author focuses on the main challenges brought by the development of the platform economy to anti-monopoly, which are also the more difficult problems encountered in the current anti-monopoly practice.

The author is mainly concerned with the definition of the relevant market. The reason why we pay attention to this issue first is that both the early domestic and foreign anti-monopoly regulations and the newly promulgated "Anti-monopoly Guidelines of the Anti-Monopoly Committee of the State Council on the Platform Economy Field" (hereinafter referred to as the "Guidelines") all involve this issue. In the discussion of the problem, the previous competition laws and regulations regard it as the basic step of competition analysis, but in the actual platform anti-monopoly law enforcement, law enforcement officers often start from here, which shows the importance of analyzing this problem.

In the "Guide", it points out that the basic method of defining the relevant market is the substitution method, that is, the method of demand substitution and supply substitution, which the author collectively refers to as the functional substitution method, and its essence is the analysis of cross price elasticity, although in the "Guide" When referring to the use of the function definition method, it can be analyzed in combination with platform functions, application scenarios and other factors, but the biggest problem faced by the function definition method has not yet been solved, that is, it is difficult to separate the subjective factors in the definition process. With the diversification of market products, people with different knowledge backgrounds may have different views on the definition of substitutes, which is why in the traditional unilateral economy, the function definition method is gradually "cold". Of course, in the alternative analysis of bilateral platforms, in addition to subjective factors, it is also very likely to find that cross-network externalities cannot be fully considered, and the emergence of cross-border competition among platforms in recent years has further intensified the definition of alternatives. Difficulties, which in turn lead to inaccurate market delineation.

Based on the shortcomings of the functional definition method, the United States introduced the SSNIP (Assumption Monopoly Test Method) in the 1980s to carry out economic analysis on the definition of the relevant market, providing a quantitative basis for the definition of the relevant market. The basic principle is that if other conditions remain unchanged,

it is assumed that the monopolist raises the price slightly within a certain period of time (usually one year) (the price increase is generally assumed to be 5%-10%). If the monopoly is facing a decline in sales, but still can make a profit, the target product can constitute a relevant market, otherwise it will continue to expand the scope of the target product to define. It can be seen that the core of this method is the price mechanism, and it is precisely this core mechanism that may cause the relevant market definition to fail in the face of the platform's non-neutral pricing, because at the "0" price, the result of a small price increase is still "0", and it is even more unimaginable when there is a "negative" price. In fact, this relevant market economic analysis method, which is very popular in the unilateral market economy, is also constrained by another feature, that is, the externality of the cross network. If only transaction platforms are also considered, when using the SSNIP method, the After the price, it is impossible to clearly distinguish the restrictive effect of cross-networking on the change of sales volume, which leads to the narrow scope of the relevant market.

In fact, not only the SSNIP method, but also the CLA method (critical loss method), which is extended on the basis of the SSNIP method, also faces the problem that it cannot be applied in the platform economy. The principle of the CLA method is to assume that when the monopolist implements a non-temporary small price increase, the maximum sales volume reduction that keeps the profit unchanged, this value is called the critical value. By comparing the critical value and the actual value, if the actual value is less than the critical values, then the current commodity can be defined as the relevant market, on the contrary, it needs to be further expanded to define the scope of the relevant market. This method has also been widely used in the unilateral market economy, but when considering the pricing structure of the platform economy, the situation is completely different, because the CLA method needs to obtain a critical value, but as mentioned above, in the face of The relationship between price and quantity cannot be calculated at the "0" price, so it is impossible to define the relevant market through this economic analysis.

We can see that regardless of whether it is SSNIP or CLA, the price mechanism plays an extremely important intermediary role, but this intermediary role is precisely what the price structure of the bilateral platform cannot fully provide. As a result, some economists proposed the SSNDQ method (Small Important and Non-Temporary Quality Degradation

Method). The essence of this method is to skip the price mechanism and introduce a "quality" mechanism. The basic principle is to observe the quality of related commodities, and whether consumers switch to other commodities, thereby defining the relevant market. However, the shortcomings are also very obvious. Therefore, the SSNDQ method is not a panacea. To a large extent, it can only be used as a reference index for market definition. Although from the current point of view, there are still many immature places in this method, but this method can be combined with the behavioral economic theory in the micro-economy to develop a set of measurement systems that are more suitable for the actual situation. For example, in the platform economy, whether users are There is a more sensitive response including psychology to price and quality changes, and whether this response will affect the decision-making of users to participate in the platform.

In addition to the conversion of the above-mentioned intermediary indicators, David S. Evans and Michael D. Noel modified the CLA method to make it suitable for the measurement of platform economy. Specifically, it is to test the price on both sides of the platform, and then calculate the change in sales volume on both sides. The basic idea is very similar to the CLA method, and it is also a comparison of the actual value and the critical value. However, this method also has limitations. It separates the price changes on both sides and does not take into account that the platform operators will also consider price structure changes when considering price changes.

Although some economists have proposed other improvement methods for the definition of the market related to the platform economy, they have not achieved good measurement results. The definition path, that is, the method of function definition, and the author believes that this is only an expedient measure, not the final solution. In addition to the problem of defining the relevant market, the platform economy also brings other challenges to existing antitrust enforcement efforts, such as complicating the measurement of unilateral effects.

3. Other Difficulties in Platform Economy Anti-monopoly

In addition to the above-mentioned major issues of antitrust in the platform economy, antitrust in the platform sector also faces many other challenges, which are no easier than the definition of the relevant market and lack of effective economic research. For example, horizontal mergers are another direction that cannot be ignored in the platform anti-monopoly field. Traditional horizontal mergers will measure the

unilateral effects and coordination effects brought about by horizontal mergers, especially the former. Economists have developed a variety of methods, but they have not considered them. The relevant characteristics of the platform and whether horizontal mergers will produce particularity in the platform economy are still unknown. For example, how to evaluate the impact of cross-network externalities when using the UPP method (upward pressure price test) to measure unilateral utility, and using the GUPPI method (synthetic price test method). Stress price test) due to the difficulty in measuring cross-network externalities, whether the post-merger monopoly power will be overestimated, etc.

Through the above simple statement about the difficulties, it can be found that the emergence of the above economic analysis difficulties always revolves around the two basic characteristics of the platform economy mentioned above, namely, cross-network externalities and price non-neutrality. In fact, scholars and law enforcers have noticed the existence of the above two basic characteristics. The deeper reason lies behind the two characteristics, which will be explained in detail next.

Reasons for the Difficulties in Platform Anti-monopoly

1. Diversification of platform economic issues

Although the platform economy has also experienced a period of development, especially in recent years, it has received more attention, but compared with the traditional unilateral market economy, it is still a relatively young direction. In perceptual cognition, there is still a gap between some theoretical cognition and reality. At the same time, the diversification of problems also causes us to have a lack of characteristics when considering related issues, which further leads to the decoupling of theory and practical application. For example, on the issue of pricing, which is extremely important to the anti-monopoly of the platform economy, although we have recognized the platform's grasp of the total price and price structure, there is basically no more in-depth research on the issue of price subsidies that is close to the actual situation. There is a situation from single-attribution to multi-attribution, which is closer to the actual pricing research mechanism, but considering the complexity of this mechanism model, there are not many literatures on it. The above description is only a statement of pricing issues. In the field of platform anti-monopoly, it also covers economic research on many anti-monopoly issues such as pivot agreements and vertical mergers. At the same time of theory, it is bound to enrich the cognition of anti-monopoly practice, thereby promoting a more

comprehensive understanding of the platform economy, and then closer to the actual situation in theoretical exploration, and can also provide a more realistic anti-monopoly economy. Analytical method.

2. The complexity of the platform economy

The reason for such a dilemma in platform anti-monopoly practice deserves our attention, that is, some problems are far more complicated than we imagined, and lack of understanding or insufficient knowledge of some features may cause the final result to be very different from the actual one. For example, the cross-network externalities mentioned above, the reason why we have been emphasizing the cross-network externalities of transactional platforms is that this article tries to simplify this perception. In fact, cross-network externalities not only include two-way positive effects, but also one-way negative effects, such as the advertising business of platform companies. Some platforms even have different strengths of cross-network externalities to users at different time nodes, such as blind date platforms, etc. The above cases are not only the cross-network externalities that are far more complex than we imagined, but also that many platform economic issues are far more complex than we imagined, which is one of the important reasons for our lack of awareness in antitrust practice.

Solutions

Aiming at the difference between the cognition and the reality, that is, the contradiction between the shortage of actual theoretical supply and the urgent need of reality, the author proposes the following solutions.

1. "Avoidance-type" solution

The "evasion" here is not to avoid passive measures that cannot be solved, but to seek ways to save the country through a curve. For example, in the face of difficulties in defining the market related to the platform economy, many scholars call for direct evidence that reflects the effect of competition. Beyond the definition of the relevant market. In the United States, the newly revised "Horizontal Merger Guidelines" in 2010 lowered the importance of the definition of the relevant market. In the past two years, many scholars in my country have called for the relevant market definitions of the platform economy to be ignored in some cases. In the draft of the "Guidelines", the definition of the relevant market in certain circumstances was even marked, but in the final draft, a more moderate expression was adopted: "Different types of cases define the relevant market. actual needs are different." It's not just about the definition of the market related to the platform economy. In other directions in the platform anti-

monopoly, before finding a better solution, if there is a more direct path, we don't need to be entangled in the specific process.

2. Grasp the characteristics of the case

Compared with the aforementioned "avoidance" related paths, analyzing the two important characteristics of the platform economy and the unique characteristics of different cases is the main choice for platform antitrust analysis. In fact, not all anti-monopoly economic analysis will involve the discussion of "0" price. LapoFilistrucchi gave an improved version of the SSNIP method when it comes to the market definition of non-"0" price. In this version It specifically emphasizes the cross impact of price changes on users on both sides of the platform, that is, taking into account the price structure characteristics of the platform, and then comparing the actual value and the critical value to measure the scope of the platform [], but the shortcomings of this method are also obvious. The "0" price cannot be included, but this does not prevent us from defining the market that does not involve the "0" price in the case of the platform. This idea is not limited to the definition of the relevant market, including the measurement of the concentration of operators, and the measurement of market power after the merger.

3. Actively promote the development of relevant economic theories

The advancement of platform anti-monopoly still requires the continued in-depth research of a large number of scholars, including economists, to enrich the tools of cognition, and to have a more comprehensive understanding of the operating principles of the platform economy, grasp the details and characteristics, and closely follow the practice. This is a long-term strategy for solving platform anti-monopoly, maintaining platform economic development, and promoting a sound market order.

Summary

Although this article is a simple exploration of the anti-monopoly issue of the platform economy, it still has important practical significance in the context of platform anti-monopoly.

On the anti-monopoly issue of the platform economy, it is necessary to establish awareness of the problem and highlight the urgency and seriousness of the anti-monopoly of the platform economy. First of all, it is necessary to pay attention to the research on the relevant theories of the platform economy, starting from the characteristics of the platform economy, focusing on identifying the difficulties in anti-monopoly of the platform economy, using appropriate quantitative tools, grasping the characteristics of individual cases in law enforcement practice, making a profound summary, and promoting good market competition order.

It is foreseeable that for a long period of time in the future, the platform economy will continue to develop rapidly, and China, as a major platform economy country, should provide the world with Chinese methods and insights in terms of platform economy anti-monopoly and other theories, and provide platform anti-monopoly and other theoretical aspects. Monopoly sets China's benchmark, and China's platform anti-monopoly has a long way to go.

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