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Analysis of the Market Definition of Non-Intermediary Service Platform in *Antitrust Law*

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Abstract

The judgment of the definition of market to the Internet platform has become the focus of the implementation of *the Antitrust Law*, but due to the huge differences between the Internet platform and the traditional industry, the traditional method of the market definition has lost its due role. After an in-depth analysis of the existing types of Internet platform economy, a new classification method is proposed, that is, the Intermediary Trading Platform and the Non-intermediary Service Platform. Combined with the unique characteristics of Non-intermediary Service Platform, it is found that these characteristics cause many problems, such as the difficulty of choosing the benchmark services, the analysis dilemma of profit sources, the failure of the traditional SSNIP test method, and the challenge of cross-support power measurement. After comprehensively measure the above problems, based on the behaviorism mode, according to the characteristics of Non-intermediary Service Platform, in the market definition requires the combination of the platform's service independence, traffic support relationship, profit ownership, select the benchmark services can reflect the platform or specific service anti-competition effect, and improve the SSNDQ test, make it more to frame the market scope, provide real alternative for the subsequent market dominance and abuse and concentration review of judgment.

Keywords: internet platform, market definition, *Antitrust Law*, non-intermediary service platform, cross-support force

1. Introduction

Market definition plays an extremely important role in the enforcement process of *Antitrust Law* enforcement. Fundamentally, it is the prerequisite for them to judge the market force of an operator. In the commodities or services operated by the operator, a relevant commodity scope and a relevant regional scope are framed. The selection of this scope depends on the balance between the competitive operators within the scope and the necessity of national anti-monopoly measures. When both, the scope is appropriate, and the

opposite is not. After the market definition is determined, the market force or market position of the target operator can be further judged based on the turnover and the number of users. And then judge whether the target operator is an abuse of dominant market position after the implementation of a certain restriction and exclusion of competition, and whether the target operator wants to acquire other operators with a competitive relationship or a relationship with the upstream and downstream.

With the development and transformation of platform economy too fast, many difficulties to antitrust authorities to determine the market definition. Especially after the addition of the Internet factors, the industrial factors and structure have undergone great changes, and many traditional analysis methods are often helpless in the face of the Internet platform. We use the literature analysis, typed analysis and empirical analysis and some others, and creatively adopts a new classification on the basis of the previous economic analysis of the Internet platform, namely, the Intermediary Trading Platform and the Non-intermediary Service Platform. Combined with the different characteristics of the two types, the paper focuses on the market definition of the Non-intermediary Service Platform, and puts forward a plan to improve the market analysis steps and analysis elements of the platform, hoping to obtain a more accurate market definition in a more convenient analysis way.

2. The Classification Significance and Characteristics of Intermediary Transaction Platforms and Non-Intermediary Service Platform

The popularization of the Internet makes the digital platforms become increasingly strong, and the monopoly problem has seriously affected the development environment of the internet platforms. Platform economics, as a new type of economics discipline, takes the state, competitive effect and market structure of the platform as the key object of analysis. Many scholars use the analysis model of platform economics to apply it in the anti-monopoly field and produce fruitful results. However, due to the rapid development speed of the Internet, the original understanding often needs to be constantly modified along with the actual situation. In order to facilitate the implementation of the *Antitrust Law*, the types of platforms will also be distinguished according to the characteristics of the platform in judicial practice. After combining the analysis of some scholars on platform types and platform characteristics, this part puts forward a classification method more conducive to a clear understanding of the relationship between different goods or services in the platform. It is precisely because different types of platforms contain different characteristics, which lays a foundation for the later analysis of the market definitions of different platforms.

2.1 Problems of the Traditional Classification of the Platform Economy and the Proposal of the New Classification

The Internet has boosted people's attention to the platform economy, but the platform economy is not just the Internet. There are many types of platforms. Scholar Evans divides platforms into market creators, audience creators, demand coordinator, real estate agents as market creators, newspapers, magazines, web pages, network TV into audience creators, and operating system software, video games, and credit card business into the scope of demand coordinator (Evan, 2003). At the same time, he believes that the study of multilateral markets in platform competition economics is conducive to the formulation of antitrust and regulatory policies (Evan, 2003). Since the early studies did not deeply feel the threat brought by the Internet, they did not analyze the internet platforms separately, but still analyze the traditional industries together.

Filistrucchi and other scholars have divided the platforms into media types and payment card types, and have tried to use the SSNIP test method to test the market definitions of the media type platforms (Filistrucchi, 2008). In subsequent research, the two-sided markets of "payment card type" is known as bilateral trading market, while the two-sided markets of "media type" is called bilateral non-trading market, which hopes to complete the definition of the platform-related market by this classification. And it believes that the definition of the market definition should be based on whether a platform is a trading platform or a non-trading platform, and the trading platform should be defined as a related market,

and the non-trading platform should be defined as two or more markets (Filistrucchi, Geradin & Damme, 2010). But today, there is diversity in non-trading platforms, and defining all non-trading platforms as two or more markets may miss platforms that only serve one user groups. They gave a definition of a two-sided markets in which companies play the role of a platform, somehow connecting different but interdependent customer groups and generating value for at least one of two customer groups. In general, without the platform, these customers cannot get that value, or at least to that level (Filistrucchi & etc, 2010). Two-sided trading markets and two-sided non-trading markets bring convenience to define the market definitions. However, due to the network effect that is not fixed on both sides of the market and may be caused by multiple sides at the same time, the analysis of the market definitions cannot be fully solved by the platform. In addition, non-trading platforms are not really "non-trading", but they make profits from the other side of the free side market to subsidize the free side market.

On the basis of the above research, scholars Wencheng Lu and Jian Wei combined with the unique network externalities and price cross-subsidy characteristics of the Internet platform, and divided the Internet platform into transaction intermediary platform and cross-subsidy platform according to the different roles played by the platform enterprises in trading. And to determine the free service market and the mutual subsidy of the price chain market (Lu & Wei, 2021). This method is similar to the method of using the platform profit model or profit source to define the market definition (Jiang, 2021). But the problem with this approach is that when three or more markets intersect, it is difficult to judge the fundamental source of profit, and even if you find the source of profit found, it cannot determine how much of the goods or services are due to the target goods or services themselves. When encountering large platforms that already form a specific ecosystem, ways to analyze profit models may be even more difficult.

So far, China only on the Internet platform with functions of e-commerce for the punishment of the abuse of dominant market position, however, instant messaging, search engines, video playback, and other types of Internet operators have also formed the extremely easy implementation of abuse of market position, so to strengthen the analysis of these types of operators is impending. In addition, the Internet association of China released *the Chinese Internet Enterprise Comprehensive Strength Index* (2021), which from the top ten companies, in addition to similar Alibaba Taobao, Meituan, JD, spell directly with intermediary nature of e-commerce platform, WeChat, Conference of Tencent, Baidu Search, Baidu Cloud, TikTok, Netease software services are using some advanced service payment and basic service free model. On the basis of the above research, this paper intends to propose a new classification model to help the market definitions of different types of internet platforms adopt different definition methods, and the internet platforms are divided into the Intermediary Trading Platform and the Non-intermediary Service Platform as the basic types of analysis. The so-called intermediary trading platform refers to a platform that provides intermediary services between commercial users and end users, such as China's Taobao, Meituan Takeout, Didi Taxi, etc. The general service fee will be charged to the commercial users in the name of the platform entry fee, search ranking fee, increased exposure service fee and so on. This type of platform is intended to improve specific transactions as the main goal of the platform; The so-called Non-intermediary Service Platform refers to one or more Internet services as a means to attract users, during the service process, direct your attention to other services and make profits, using the advertising market for profit. But now it is growing very fast, it may also lead to other industries such as shopping, education and games. The main purpose of such platforms is to improve scenario-specific services to retain users' usage time and user attention, and to provide opportunities for other potentially profitable goods or services.

Do not use the existing classification, There are the following reasons: (1) Judging from the state of the punishment, China's judgment of the Intermediary Trading Platform has become mature, More attention needs to be paid to the platform characteristics and analysis modes of Non-intermediary Service Platform; (2) Why does

not adopt the above classification model of the cross-subsidy platform, because of considering that, among the current major Internet service platforms, there is no inability to distinguish between sources of profit and guide traffic into new unprofitable sectors, using methods to examine subsidy markets in such circumstances may be hampered; (3) It is more conducive to combing the relationship between different services in the internet platforms, in particular, the analysis of the mutual support relationships of different goods or services in the same platform; (4) It is more conducive to distinguishing between internet platforms that use specific transactions as service objects and internet platforms that serve a specific group and constantly increase services to improve specific scenarios. After determining the classification mode of the platform, we will analyze the respective characteristics of the Intermediary Trading Platform and the Non-intermediary Service Platform respectively, compare the differences, and focus on analyzing the unique characteristics of the Non-intermediary Service Platform.

In fact, in addition to the influence of the above researchers, scholar Gawer's research also provides important ideas. She believes that a platform can be defined as a basic product, service, or technology, on which more complementary related products, services, or technologies can be developed (Gawer, 2009). In the subsequent research, it was found that different participants in the platform had formed certain interest relations. In order to expand their status, the platform operators needed to invite third parties to join the innovation of the platform services, so as to form a benign platform ecosystem (Gawer & Cusumano, 2014). From the perspective of the development of the internet platforms, the establishment of the platform ecosystem is undeniable, and it is very likely to become the future trend of the platform. However, considering that the main purpose of this paper is to solve the problem of market definition in specific Internet platforms, we believe that the classification of intermediary trading platforms and Non-intermediary Service Platform is more helpful to improve the current law enforcement status than the analysis method of the platform ecosystem.

2.2 The Common Characteristics of Intermediary Trading Platforms and Non-Intermediary Service Platform

2.2.1 Network Effect

Network effect is similar to the network externalities mentioned above, which means that the value of products or service on the platform will increase as the number of users using the product or service increases, and network effect can be divided into direct network effect and indirect network effect (Meng & Li, 2019). The so-called direct network effect means that users will directly affect other users by using the platform services. Take the e-commerce platform as an example, the more commercial users in the platform, end users' bargaining and selection ability will increase accordingly. In turn, the more end users, the commercial users will have more traffic, exposure and other values to the more rapid and accurate sales of products. The so-called indirect network effect refers to that the users in the platform do not directly act on users who use the platform services, but indirectly affect the service market on different sides of the platform. For example, on the search engine platform, when the more users who use search in the platform, the more accuracy and exposure of the advertising market will be, and the more attractive for advertisers to enter. Usually, most of the network effects produced by platforms belong to indirect network effects (Wong-Ervin, 2020).

2.2.2 Multi-Homing

It is a common phenomenon for PC users and mobile users to install the same or similar software platforms. This is the feature of multi-homing. Due to the convenience of the Internet, users hardly need too much time to register for accounts in multi-platform. In addition, even if users do not use a certain platform, they will not deliberately cancel the account of a certain platform, which makes the same batch of users appear on the same or similar platforms at the same time. It is precisely because of this characteristic in the West that the dominant platform is subtly replaced by competitors (Evans & Schmalensee, 2017). In China, taking the instant messaging market as an example, users who install Tencent WeChat are very likely to install Tencent QQ, Tantan, MOMO and other communication software very similar to WeChat functions at the same time. For another

example, on retail shopping platforms, most consumers will install Taobao, JD or Pinduoduo at the same time, so that they can enter different platforms to compare prices when buying items. The multi-homing nature of consumers in these platforms is difficult for the platforms to control, so they turn the finger to commercial users. The "two choose one" behavior of Alibaba and Meituan is a typical means to restrain the multi-homing characteristics of commercial users.

2.2.3 Lock-in Effect

Lock-in effect is an important feature of the Internet platform. The scale of the platform, the sunk cost that users invest in the platform, the dependence on the platform services and other factors will lock some users, weakening the selection ability of users and the possibility of switching to other platforms, and thus maintaining the advantage of the platform. The lock-in effect will bring a relatively large competitive advantage to the platforms that enter the market in advance, and give higher competitive costs to the new entrants or potential competitors. Also take instant messaging as an example, when users register WeChat accounts, they find that almost all people around them have WeChat accounts. At this time, the network effect will aggravate the locking effect. In addition, after the use of WeChat, users' sharing, moment, conversation history records and so on will become an important cost for users to transfer to other platforms. In contrast, the lock-in effect in e-commerce platforms will be different. When commercial users in the platform form a relatively fixed customer group or a sales-helpful evaluation system in the platform due to long-term operation, they are reluctant to leave the platform. So, there is little impact on consumers' right to free choice in such platforms.

2.3 The Unique Characteristics of Non-Intermediary Service Platform

2.3.1 Free Provision of Services

From the Intermediary Trading Platform of information disclosure, the more competitive platform will make platform data (commercial users' information) open for end users to choose, however, the early Internet platform users need to pay service fees in exchange for information, so only from the perspective of its information provision, most of the platform also belong to provide free intermediary information services. As a result, consumers are not charged (visible) prices when using e-commerce platforms such as Amazon Marketplace or Booking (Franck & Peitz, 2021). The main purpose of such data disclosure is to facilitate transactions. But disclosure that doesn't lead to a deal is a useless resource for consumers, so it's hard for them to identify the platform as free. Non-intermediary Service Platform, on the other hand, have continuous free services for consumers to meet their own needs without paying anything. In addition, the paid services in the platform are in a state of choice, so it has the characteristics of providing services for free to consumers.

2.3.2 Price Subsidy

In fact, there are no platforms providing free services for a long time, and the operating costs of Internet platforms are offset by the profits of other service markets. Prices that are lower than the marginal cost or even negative numbers are extremely abnormal in traditional markets and are common in two-sided markets. If the demand market on one side has greater price flexibility, and their participation attracts a large number of participants with relatively no price flexibility (and therefore a high bid price tag), then the platform may charge a price below the cost on one side (Rysman, 2009). There are inevitably one or more markets that are different from the free service provided. The user attention brought by the free service market can effectively increase the revenue of other non-free service markets. Such as Baidu search engine in China, it provides high quality, comprehensive, and strong correlation search service to attract users, on the other side of Baidu after the user participation in the service data, provide convenience for the advertising market, and increase advertising revenue, the revenue to subsidize the search engine market technology research and development and solid-state cost.

2.3.3 Scene Service

While Non-intermediary Service Platform continue to carve up the existing market, they also gradually form their own service scenarios, and such scenarios can help the Internet platform to realize multi-service linkage and traffic

cross-support between different goods or services. Take Tencent as an example, WeChat was originally only a platform for communication and sharing among friends. And the game industry, especially the network game, more emphasis on the game experience with friends, so WeChat user group, when users invited to other users together, can easily will not belong to the game user guide into the game market, plus WeChat generated in the process of operation friend data can easily implement friend game technical service, can realize instant messaging support for the game industry. Again, such as Baidu map, users have been used to use Baidu map to search schedule, and in the process of people start to travel will inevitably produce refueling, catering, accommodation demand, so in such a service scenario, Baidu map can easily use its user advantage into catering or hotel such intermediary trading platform services. Of course, whether it is the game service provided by WeChat or the catering and hotel push service provided in Baidu Map, these services themselves also constantly improve the service scenarios of the platform, so that more comprehensive and thoughtful services can be provided in specific scenarios, and ultimately make users stay in or rely on the platform.

Intermediary trading platforms are different. This type will take a trading target as the platform purpose when building the platform. Take the payment function as an example, Taobao connects the sales merchants (commercial users) and purchasing users (end users) in the platform, and helps them with a series of services, such as information communication, product display, transaction logistics, and after-sales guarantee. The only one purpose behind these services is to facilitate both parties to reach a transaction. In the process of reaching transactions on Taobao platform, an absolutely important link is whether the payment is safe and convenient, so when Taobao was started, Alipay showed it in the form of some functions. This is very different as an intermediary service platform WeChat, Tencent WeChat is found in the late operation in WeChat service scenarios often have different users have use WeChat business communication, spell single group purchase, family transfer, friends red envelopes and other functions, in order to perfect the scene just launched the WeChat payment function. In fact, perfect the role of the scene service is in order to better retain users (retained here is not only the number of users, more is the user's actual use time or the user's attention), if in the future need certain scenarios and technology can be realized, the platform, of course, will not hesitate to increase these services. Therefore, the Intermediary Trading Platform is improved around the specific transaction services, while the Non-intermediary Service Platform is designed to comprehensively improve the specific scene services. With the large amount of Internet platform capital, many platforms are gradually jumping out of the type restrictions and interfering in other types of Internet service platforms, but this has no essential impact on our analysis of the types of specific platforms and related markets.

2.3.4 Transfer of Commercial Purposes

Because of the above characteristics of scene service, the users in the platform will promote the non-user group to become the user group because they share the need of scene service with other non-user groups, which makes the user group in the Non-intermediary Service Platform become larger and larger. Once the number of users is huge, the demand for scene services tends to be diversified. In addition, the analysis of big data can clearly understand the new demands and proportion of the user group, and gradually add functions to improve the scene services. Such a perfect model will further increase the number of user groups, forming a virtuous cycle of platform development. However, taking WeChat as an example, the original intention of this application is to achieve smooth communication between different users. With the development of the platform according to the above process, the current WeChat is now a scene-based service integrating small program development, public account information, short video entertainment, financial payment and finance, and WeChat business retail. In fact, if the user group has other needs, WeChat will also add the corresponding services as long as it does not affect the original user experience. In this way, the Non-intermediary Service Platform will continue to generalize the original purpose when chasing their actual use or attention, and their only goal is to retain and

expand users.

To sum up, in order for readers to more clearly understand the differences between the two different types, they are drawn into the following two pictures. Figure 1 represents the standard intermediary trading platform, and Figure 2 represents the Non-intermediary Service Platform.

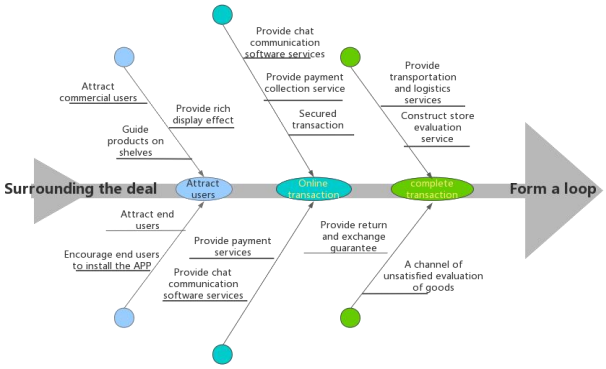

Figure 1. The operation characteristics of the Intermediary Trading Platform

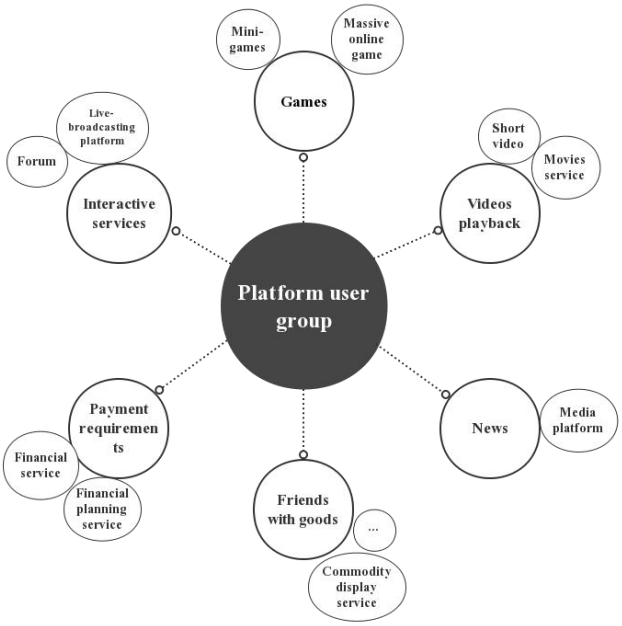

Figure 2. Operation characteristics of the Non-intermediary Service Platform

3. The Dilemma of Related Market Analysis of Non-Intermediary Service Platform

3.1 The Dilemma of the Non-Intermediary Service Platform to Define the Related Commodity Market

Article 3 of the China's *Guide on the Definition of Relevant Markets* clearly stipulates that: "the relevant commodity market is a market composed of a group or a class of goods that the demanders think have a relatively close substitution relationship according to the characteristics, use and price of the goods". The selection between a group or a class of commodities have a strong competition relationship, and they can be identified as the scope of commodities in the *Antitrust Law* enforcement. In the process of judging the relevant commodity market, it is necessary to first select a benchmark service according to the characteristics of supply, frame a general benchmark services range, and infer the exact scope of the relevant commodity market through demand substitution analysis and supply substitution analysis (Zhang, 2019). However, the following difficulties are encountered in defining the related commodity markets of Non-intermediary Service Platform:

3.1.1 Difficulty in the Selection of Benchmark Services

From the current punishment of Alibaba and Meituan in China, the market analysis of related commodities of Intermediary Trading Platforms is becoming mature. The reason why the commodity market related to Taobao and Meituan takeout can be determined is that both have formed a state different from the tradition and can constitute independent service provision. Take Taobao as an example. In the traditional market, offline retail mainly displays goods in the way of store decoration and commodity display. Goods have a clear price, bargaining behavior is conducted through oral communication with customers, and cash is paid for. Now Taobao will be originally attached to retail goods services to join the Internet factors, and provide technical support for the whole trading process, make goods display, clerk, customer communication, payment, delivery behavior independent of retail behavior, makes the independent service can be provided by Taobao or other electric business platform, and the service is the basis of the benchmark service. After determining the benchmark services, it is easier to test platforms such as Pinduoduo, JD, Vipshop and other platforms, such as using user demand replacement and supply replacement analysis.

In the unique characteristics of the Non-intermediary Service Platform mentioned

above, in order to improve the comprehensiveness of the scene service, the platform always constantly increases the service items in order to meet the users. Thus, when faced with the analysis of the platform involving related goods. It is difficult to locate benchmark services. The difficulty is that (1) platform users may no longer use the platform for a single item or service in the platform, coupled with the transfer of the commercial purpose of the platform, make the different kinds of goods or services in the platform have been completely mixed and crossed. Therefore, it is impossible to confirm which goods or services are the core goods of the target platform. It is also difficult to analyze their characteristics and characteristics; (2) integrates all services on a particular platform, and counting it as a whole, due to the different operation scenarios of different Non-intermediary Service Platform, it will create no way for different platforms to replace the demand, or just a small replacement. In this way, a platform is equivalent to a commodity market, and its market share will be extremely high. Using such analysis method, it is inevitable to punish a platform; (3) platform services is very fast, if suspected goods or services are the target, some services may not form independent commercial services and cannot be selected as the benchmark services.

3.1.2 Complicated Profit Structure

In the intermediary service platform, the number of users and user use time is the key to the platform is the fundamental of survival, so whether the core of the platform or peripheral service will be as far as possible in the form of free, charge part is in the user is satisfied with the basic service after hope to get a better service. Take Tencent Games as an example. According to the financial annual report of Tencent in 2020, "out of Tencent's 482.1 billion yuan in revenue, 191.2 billion yuan is included in game revenue, accounting for 40%". WeChat provides data support for partial game traffic and game users' communication; the basic game services in the game are free, and most of this game revenue is the game equipment and props purchased by users for better game experience on the basis of satisfactory basic game service. From this point of view, it is difficult to judge how much of Tencent game revenue should belong to WeChat, and how much should belong to the game itself? We excluded the current games (such as Honor of Kings, Game for Peace, etc.) of Tencent that cost a lot of technology, and only took Fight the Landlord, a micro game with no special technology content and very low marginal cost, as an example. Such a small game in mobile android market share of 87.2%, IOS apple system APP Store list ranked 15, weekly water of 21 million yuan, according to the calculation, excluding advertising revenue, single water revenue can reach 6 billion yuan a year. So how much of the revenue should be included into WeChat or QQ drainage, and how much should be into the game service? It is worth noting that in the Android system software, the search software will push nearly 100 similar software, and almost no similar software can compete with Fight the Landlord.

The complex profit structure has brought about difficulties in related commodity market analysis. The previous "Renren v. Baidu" case has triggered a great discussion among scholars, and concluded that Baidu search is not a completely free service, but uses advertising revenue on the platform to subsidize search services. If the above problems are analyzed by the current scholars, the WeChat is regarded as an instant messaging platform, one side connecting to the users using WeChat, and the other side connecting to the game service providers. Use game revenue to subsidize instant messaging services to keep the platform operating. But in fact, the two-sided markets connected with WeChat as a platform are in a state of free basic services (whether Fight the Landlord, Honor of Kings or Game for Peace, there are a lot of long-term users who don't pay anything), making it impossible to distinguish the relevant commodity market with the profit analysis method. Because if the instant messaging as the benchmark services market cannot objectively evaluate the great appeal of outstanding game services to the market; and if the game platform as the benchmark services market is easy to ignore the key promotion and drainage role of instant messaging platform on game development. Therefore, due to the complex profit model of the Non-intermediary Service Platform, the original method of using the profit model analysis platform is invalid, and it also increases the difficulty of choosing the benchmark services

market.

3.1.3 Failure of the SSNIP Test Method

The emergence of the actual operation method of the assumed monopolist in the market definition by judging the flow of demanders arises, namely the SSNIP test (Small but Significant and Non-transitory Increase in Price). Although the service fee of the platform in the Intermediary Trading Platform is mixed with the price of the transaction target in the platform, the test method is still valid because the price attribute of the commodity is still retained, and the merchant users in the platform will also adjust the corresponding commodity price according to the service fee charged by the platform. For example, when we use Taobao for shopping, many users will simultaneously open similar platforms like JD or Pinduoduo for price comparison, and finally decide which platform to buy it. Therefore, increasing the price of goods on the platform by 5%-10% can help us view the track of demanders and frame the market scope of related goods.

However, in the characteristics of the Non-intermediary Service Platform above, the basic services are in the free mode. If the scope is tested to increase the use cost, and obviously the scope will be too broad to have reference significance. In the West, Facebook is the most famous in social networks, defined as different from previous computer-mediated communication systems (such as email, online forums, etc.), social networks provide a series of services, such as text chat, messaging, email, video, voice, file sharing, blogs, discussion groups, etc (Gnyawali, Fan & Penner, 2021). However, at present, many other software, such as YouTube, Google and other major features of the software also have the above features, but obviously it is not an alternative. If the user fee of Facebook, which is originally free, is increased, the number of users of other software will inevitably increase. As a result, software products without sufficient substitutability can be related to Facebook only because they add one of the above functions. Accordingly, the SSNIP test method cannot achieve its due role in the Non-intermediary Service Platform.

3.1.4 Neglect of Cross-Support Relationships

As analyzed above by the Non-intermediary Service Platform for the same batch of users to carry out different services, so far, the vast majority of law enforcement agencies still compare the target goods or services with the main services in the platform, and then draw two different relevant goods markets and analyze their respective market shares in turn to judge the market dominance, such as the Google case in the European Union. But in fact, such practices not only make the cost of law enforcement rise sharply, but it is not comprehensive. From the characteristics described above, it is not difficult to find that today's non-intermediary service platform is no longer able to really measure what service is the core of a platform, and has formed all services are carried out around retaining users. Moreover, the interaction between different services is no longer simply a simple state of drainage from core services to surrounding services, but the formation of mutual drainage and mutual consolidation of the market position in the whole service scene. As can be clearly seen from Figure 3, the game plate of the Non-intermediary Service Platform can be effectively drive and increase the use frequency of interactive platforms, video entertainment or payment functions. Short videos in video entertainment can also increase the frequency of use of live streaming platforms, games and payment functions. Such examples can be easily seen in Figure 3, no longer here. Therefore, the separate analysis of only the two related commodity markets does not clarify the relationship between the two, which also makes the choice of the above benchmark services more difficult.

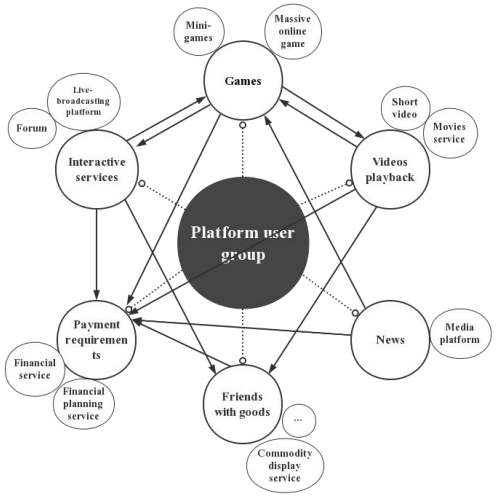

Figure 3. Trend of the cross-support force of the Non-intermediary Service Platform

3.2 The Dilemma of Non-Intermediary Service Platform to Define Related Regional Markets

In the Intermediary Trading Platform, based on specific transaction purposes, in addition to virtual goods, it will still lock to specific goods. Although the development of the logistics industry enables goods to easily cross the world, the high transportation costs will also limit consumers' choices. Therefore, whether retail, takeout, catering, hotel, travel can still determine a relatively stable geographical range. Unlike Non-intermediary Service Platform, however, Internet-based platform services can easily cross-national boundaries. In addition, most basic services adopt the free mode, which brings great challenges to the limited regional market. The scope of the regional market is too large, which makes it easy for the operators with a very high market share in specific regions to be instantly diluted by the share of the operators who do not pose a threat to competition in the vast region, and they cannot play the due role of the *Antitrust Law*. If the regional market scope is too small, those operators who have a high market share in a small range and do not threaten the competitive effect and harm the consumer welfare and social welfare will be restricted by the *Antitrust Law*, making the relationship between the government and the market unbalanced and the market lose its vitality.

4. Suggestions for Improvement of Related Market Analysis of Non-Intermediary Service Platform

To sum up, we found that in judging the Non-intermediary Service Platform related market encountered the following two key problems: (1) platform continuously new services formed the cross-drainage support relationship, but there are a lot of services can be completely independent of the platform overall service, so when evaluating the market definition should take independent analysis of a single service or analyze the platform of the whole market? In other words, the question of how benchmark goods. (2) free products make the SSNIP method invalid, and SSNDQ is theoretically feasible, but due to the large differences in the platform features, how to obtain the elements of SSNDQ test has become a new problem.

At present, there is a view of weakening the market definition analysis of digital platform, but such a view is not practical. If the finding of an anti-competitive effect precludes the need to define the market definition, just as the discovery of drunk driving precludes the need to determine whether the defendant is driving. We cannot conclude without ancillary findings, and the rule which permits the substitution of an ancillary finding by conclusions is in fact the definition of circular inference (Nachbar, 2021). Therefore, even if relatively complex solutions need to be developed or envisaged, the market definition analysis cannot be discarded.

4.1 Confirmation of the Benchmark Services

Non-intermediary Service Platform develops service projects around user groups. In order to improve the scene service, new service projects will be continuously added to the original platform, which has blurred the original core services and causes difficulties in the selection of benchmark services. This has formed multiple commodity markets in non-trading platforms (Wright & Yun, 2019). In the complex platform service, a multi-level service sample has long been formed. In addition, the traffic-cross-guidance is easy to increase the subjectivity of market definition judgment, leading to the problem of result-oriented judgment in the analysis of market definitions (Zheng, 2016). This problem not only

needs to restrain law enforcement in principle, but also needs to update specific methods. If the benchmark services with significance to the market definition analysis cannot be effectively selected, the subsequent analysis of the relevant commodity market will not have the effect of judging the anti-competitive effect. Combined with the analytical dilemma described above, independent benchmark services need to be selected when facing this problem.

When selecting the benchmark services in the Non-intermediary Service Platform, we cannot directly analyze the market definition of the whole platform because of the monopoly behavior of a service in the platform, nor alone analyze a small and specific service in the platform as the object of the market definition. Therefore, whether a specific service becomes an independent benchmark service can be used as a criterion to judge the whole platform as the analysis object or the specific service, we need to observe from two aspects: that is, after determining the specific service, whether the specific service is formally independent; on the other hand, whether the specific service is substantially independent.

4.1.1. Form of Specific Services is Independent

Whether a specific service constitutes an independent form, mainly observing whether a specific service has an independent interface outside the platform for the user to obtain the service. Scholar Ward believes that when the services in a platform are designed to maintain platform differences, an integrated market should be used for the analysis of the platform (Ward, 2017). At present, many platforms have nested different services into the platform in order to increase the platform vitality, so users will have to use the platform to use specific services. Under such circumstances, we believe that the service itself has the role of increasing the differentiation of the platform, and is suspected of forcibly selling different services. At this time, when there is a monopoly behavior in a specific service, the whole platform should be taken as the object of analyzing the market definition.

4.1.2 Substantial Independence of Specific Services

If the form is independent, it may also not be substantially independent. When the form is not independent, it may be essentially independent. When judging the substantive independence, the following two aspects need to determine: (1) whether the profit of specific service belongs to the platform or the operator of the service, and it is also necessary to determine whether the service operator and the platform operator have equity and agreement connection. When the vast majority of the profit belongs to a specific service operator and is completely independent of the platform, the service is independent of the profitability; (2) whether the traffic guidance is inevitable. When a specific service in the platform must accept the platform traffic to operate, it means that the service is not independent, and only when the specific service can accept other traffic besides the platform, the service can be called the traffic independent.

Only when a specific service meets both formal independence and substantive independence, that is, interface independence, profit independence and flow independence, the service can be independently used as a benchmark commodity to analyze its relevant market; otherwise, the platform where the specific service is based needs to be taken as the analysis object of the market definition. We believe that such an analytical approach has the following benefits: (1) avoids subjective judgment in the early stages of antitrust analysis, laid a foundation for the subsequent analysis; (2) the is conducive to protecting the platform innovation mechanism, it will not be investigated by the *Antitrust Law* after specific independent services are added to consumer demand; (3) when adds new services on the platform, the platform will consider the need for additional non-independent services, not to blindly add services to make the platform scale is too large and put it in the risk of *Antitrust Law* constraints; (4) following monopolistic practices implemented by specific independent services, to achieve the "punishment" for the fault of the service, instead of attributing all the monopoly effects to the whole platform.

4.2 Operation Improvement of the SSNDQ Method

After the selection of these benchmark services is completed, we need to continue to determine the scope of the market definitions. Non-intermediary service platform has the characteristics of free service provision and cross-subsidy, and the SSNIP method will not play a calculation role. To

be able to test the precision of the demand substitution analysis, an improved SSNIP testing method is needed to become the SSNDQ testing method. SSNDQ testing refers to the definition of a market definition that can be assisted by small, meaningful and not transient quality declines. Of course, quantification is challenging because it is not clear exactly what quality should be reduced (Gebicka & Heinemann, 2014). Before explaining how to improve, we also need to review the "cellophane fallacy" based on SSNIP method. In 1956, DuPont produced about 75% of the cellophane market, but because of the SSNIP test to increase the price of DuPont cellophane, consumers chose other soft packaging materials, the court identified the market definition as the broader "soft packaging materials" market, while DuPont only 17.9% of the market.[1] In fact, from the perspective of current judicial practice, SSNIP method is an auxiliary method to detect the correct degree of demand substitution analysis, and cannot be completely separated from the analysis results of demand substitution. Once it leaves other analysis indicators and only relies on SSNIP, the above cellophane fallacy will appear. Therefore, although the method of SSNDQ is improved here, the auxiliary method still needs to be based on demand and supply substitution analysis, and the test method can be correctly applied only after this point is clear. As described above, the SSNDQ also needs to test different platforms separately because different platforms use different service scenarios to attract users separately. The specific test methods are as follows:

4.2.1 Questionnaire Method to Obtain Goods or Service Elements or Parameters

In the target, goods or services users select a certain number of users for questionnaire survey, survey content for the goods or services to attract user specific reasons, based on a certain number of user feedback will present a variety of samples, in the higher proportion of several elements, assuming such as service software design, privacy confidentiality, large users, faster service response, and so on. This enables target elements or parameters for SSNDQ testing.

4.2.2 Obtain Market Definition Data by Slightly Reducing the Quality of the Above Elements or Parameters

After obtaining the relevant factors or parameters to attract users, reduce the service quality of the above elements or parameters in a certain number of user groups. For example, reduce the beauty degree of the software design page, reduce the degree of privacy protection, reduce the number of users around the surveyed users, limit the response speed of the service, etc. And investigation in reducing the corresponding service quality, the user will select what kind of goods or services as a substitute for target goods or services, and then select higher percentage of replacement goods or services, and the demand of alternative analysis to compare the goods or services of different parts will be added to the range of merchandise, so then you can draw a relatively accurate related to commodity market. In addition, by analyzing the place where users choose alternative products, we can judge whether the market definition of the target goods or services will exceed the scope of a specific region. If most of the alternative goods or services selected by users exceed the domestic scope, the relevant regional market is likely to not be limited to China. Here, a test point can be added as the case is, that is, when the user chooses an alternative commodity or service, the alternative value of the alternative commodity or service can be provided together (not exactly the same commodity or service after all), the higher the alternative value, the stronger the correlation, and vice versa.

Through the above two steps can efficiently SSNDQ test method to obtain a more accurate related market range, it is worth noting that the above two steps include a certain proportion of judgment, such as the first step of selecting several elements or parameters and the second step of selecting a higher proportion of alternative goods or services. These two proportions cannot be determined at present, but can be obtained after repeated testing. Assuming that when a selection rate of attractive elements or parameters for the target good or service is less than 20% after multiple tests, the option content of less than 20% can be ignored. Similarly, the choice of alternative goods or services with less than 20% may not be closely related to the target goods or services, or it can be ignored. Of course, the 20% here is only a hypothesis, and the specific values can obtain a

relatively stable proportion in repeated practice.

The above benchmark services selection method is helpful to face the market definition analysis of the Non-intermediary Service Platform, which can clarify the relationship between the different services of the traffic cross-support in the platform, and lock the representative analysis object with the impact on the competition. SSNDQ can effectively deal with the attributes of free services in Non-intermediary Service Platform. After locking the benchmark goods, the improved method can effectively improve the accuracy of demand and supply substitution analysis, making the choice of market definition more convincing.

5. Conclusion

On the basis of the existing economic classification of the Internet platform, combined with the actual situation and characteristics of the current Internet platform, the classification of the intermediary transaction platform and the Non-intermediary Service Platform is put forward. The new classified perspective is conducive to us to deeply compare and understand the characteristics of the two types of Internet platforms, and to find out the difficulties and challenges of the market definition caused by these characteristics. At present, although China's anti-monopoly restrictions on the Intermediary Trading Platform are still insufficient, but it has achieved initial results, and has formed a unique investigation scheme. On the other hand, although Non-intermediary Service Platform have begun to take actions in centralized business operator review, there is still no simple and effective review mechanism due to difficult selection of benchmark goods or services, complex profit model, failure of traditional SSNIP test methods and neglect of cross-support forces. In particular, the cross support of different goods or services in the platform deadlock the market definition analysis methods of bilateral or multilateral markets. Based on the basis of the existing market definition methods, this paper puts forward specific improvement measures for the analytical methods in the framework of behaviorist analysis. Focus on the characteristics of the intermediary service platform, in the market definition analysis stage on the platform service interface, profit ownership, traffic guidance, service characteristics such as content to consider, make the analysis object and analysis scope more accurate, and for the platform of the dominant market position, abuse of dominant market position and concentration of business operators to review the relevant judgment to provide basis.

References

Evans, D. S. (2003). Some empirical aspects of multi-sided platform industries. *Review of Network Economics*, *2*(3).

Evans, D. S. (2003). The antitrust economics of multi-sided platform markets. *Yale J. on Reg.*, *20*, 325.

Evans, D. S. & Schmalensee, R. (2017). Debunking the Network Effects Bogeyman. *Regulation*, *40*, 36.

Filistrucchi, L. (2008). A SSNIP test for two-sided markets: the case of media. Available at SSRN 1287442.

Filistrucchi, L., Geradin, D., Damme, E. V., Keunen, S., Wileur, J., Klein, T. J., & Michielsen, T. O. (2010). Mergers in two-sided markets—A report to the NMa.

Franck, J. U. & Peitz, M. (2021). Market definition in the platform economy. *Cambridge Yearbook of European Legal Studies*, *23*, 91-127.

Gawer, A. (2009). *Platforms, Markets and Innovation: An introduction.*

Gawer, A. & Cusumano, M. A. (2014). Industry platforms and ecosystem innovation. *Journal of Product Innovation Management*, *31*(3), 417-433.

Gebicka, A. & Heinemann, A. (2014). Social media & competition law. *World Competition*, *37*(2).

Gnyawali, D. R., Fan, W., & Penner, J. (2010). Competitive actions and dynamics in the digital age: An empirical investigation of social networking firms. *Information Systems Research*, *21*(3), 594-613.

Jiang, Y. (2012). Judicial dilemma and way out of related market definition in the Internet industry. *Jurist (6)*, 58-74+175-176.

Meng, C, & Li, Y. (2019). Relevant market and case application on free products in network platform firms—takes the video platform as an example. *Economic Theory and Economic Management* (10), 101-112.

Nachbar, T. (2021). Anticompetitive Effects and Market Definition in Platform (and Non-Platform) Markets. Available at SSRN 3903643.

Lu, W, & Wei, J. (2021). Logic and process of market dominant position identification of Internet platform enterprises. *Zhejiang Academic Journal*, (05), 111-124.

Rysman, M. (2009). The economics of two-sided markets. *Journal of Economic Perspectives*, *23*(3), 125-43.

Ward, P. R. (2017). Testing for multisided platform effects in antitrust market definition. *The University of Chicago Law Review*, 2059-2102.

Wong-Ervin, K. (2020). Assessing Monopoly Power or Dominance in Platform Markets. Available at SSRN 3525727.

Wright, J. D. & Yun, J. M. (2019). Burdens and balancing in multisided markets: The first principles approach of Ohio v. American Express. *Review of Industrial Organization*, *54*(4), 717-740.

Zhang, J. (2019). On the new problem of product definition in—multilateral platform anti-monopoly case in related product market definition. *The Legal Review,* (01), 184-196.

Zheng, P. (2016). Results orientation and legal regulation of antitrust-related market definition. *Politics and Law,* (04), 14-23.

[1] United States v.E.I. du Pont de Nemours & Co. (Cellophane), 351 U.S.377, (1956).