

# Research on market power and market structure

## A direct measure of market power of internet platform enterprises

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### Abstract

**Purpose** – This paper aims to clear whether the monopoly structure of the internet industry has produced market power and discussed the welfare change of the internet industry monopoly.

**Design/methodology/approach** – By using new empirical industrial organization methods and taking the e-commerce market as an example, the authors measured market power and economies of scale of the internet platform companies.

**Findings** – Internet platform enterprises have formed scale economy, but it has not had market power, and the industry still maintains high levels of competition; also, the emergence of large enterprises may increase the welfare of consumers.

**Originality/value** – The conclusion of this paper clarified actual competition status of internet industry and provided a new foothold for regulation and ideas for the traditional industry to crack the Marshall Conflict.

**Keywords** Market power, Economy of scale, Internet platform enterprise, New empirical industry organization, Welfare losses

**Paper type** Research paper

### 1. Introduction

The internet industry developed rapidly, the internet platform enterprises' volume is expanding and the market share is gradually concentrated. Data show that in the field of instant messaging, search engines and e-commerce, the largest enterprise's market share has been more than 50 per cent. In accordance with Chinese anti-monopoly law, the market share of more than 50 per cent is considered to have monopoly power or market power (Market Power). And market power is the basic premise where monopoly can cause harm to the industry (Hu and Chen, 2014). From this perspective, the internet industry should be the object of government antitrust.



But measuring market power by market share remains controversial. Logical starting point of market share determining the market power is enterprises with high market share can abuse market position and create monopoly profits freely by some monopoly behavior. However, this is not a necessary process, such as in the contestable market, large-scale enterprises are also facing the risk of shakeout, and it is difficult for these enterprises to obtain monopoly profits (Baumol, 1982). The internet industry is more complex. First of all, the internet industry has characteristics of competitive market, industry barriers to entry is low (Fu *et al.*, 2014). Driven by innovation, large-scale enterprises are always facing the risk of elimination, using market power to increase the price will accelerate being eliminated by the market. Second, the internet platform enterprises' free strategy is widely used, coupled with the marginal cost of products or services is very low, the difference between price and marginal cost cannot be measured directly, resulting in market power and monopoly profits may be different from the traditional industries. At last, the internet platform companies have two-side market characteristics (Armstrong, 2006; Rochet and Tirole, 2008); in the two-side market, the market share is difficult to accurately reflect the platform enterprises' market power (Qu and Liu, 2016). In addition, the market power are also affected by corporate price increases (Schmalensee and Evans, 2005), potential competition, user attribution (Lu and Zhang, 2005) and other factors. The deviation of the market share and market power in the internet industry makes it impossible to determine whether the industry does have a monopoly that affects competition efficiency and, therefore, requires a new standard to judge market power to better define the monopoly of the industry and provide theoretical guidance for antitrust practice. Compared to market share, the market markup is a more direct indicator of market power. It reflects the difference between firm price and marginal cost. If we can measure this indicator quantitatively, we will determine whether monopoly is forming.

Therefore, this paper focus on measuring the market markup rate of internet platform enterprises directly to reflect the industry market power, also, to provide the basis for the internet industry antitrust. The New Empirical Industrial Organization (NEIO) provides a viable approach to direct measurement of market premium rates. We use the NEIO method to measure the market forces of the internet platform enterprises. The conclusion shows that the internet platform enterprises have a monopoly structure but do not have the market power to verify the deviation between the monopoly structure and market power. In addition, the NEIO framework provides an effective means for us to explore the market power and economies of scale at the same time. It is concluded that the internet platform enterprises have both a scale economy and a high degree of competition, which shows that the good characteristics of the industry provide a feasible way to break the Marshall Conflict. Finally, this paper also discusses the relationship between market power and welfare loss of internet platform enterprises. It is believed that the emergence of large-scale internet platform enterprises will not affect social welfare adversely.

## 2. Review of market power measurement method

The early analysis of market power is the Harvard School's "structure-behavior-performance (SCP) paradigm (Bain, 1956)". In this paradigm, some indicators of market forces are generated, such as the concentration ratio (CR), the Herfindahl-Hirschman Index (HHI) and so on. However, there is some short board in the SCP paradigm, such as its inability to explain endogeneity and lack the theoretical basis (Bhuyan, 2014). The biggest problem is that the "behavior" in the logical chain is a complex system and difficult to observe, leading to uncertainty between structure and performance, weakening the ability of market structure to reflect the market power (Chen and Zhou, 2009), so the direct

measurement method of market power needs innovation. [Lerner \(1934\)](#) proposed a market power measurement method: Lerner Index. He believes that the market power is the monopoly manufacturers' ability to raise prices beyond the marginal cost. Expressed in a formula:  $L = (P-MC)/P$ . Lerner focuses on clarifying the nature of monopoly and emphasizing the welfare economic implications of the Pareto optimal principle. This method of estimating the market power is widely accepted and applied. But estimating market power through the difference between price and marginal cost has some problems in the internet industry. First, Lerner Index has existence of the assumptions: the scale of the same returns, product homogeneity, complete information, etc. ([Lin, 2013](#)). Internet industry has economies of scale, and its product differentiation is obvious; also, its information asymmetry is widespread and does not meet the above assumptions. Second, the above method is used to measure the markup under the price competition of the market, only reflecting the appearance of corporate price competition, lack of inspection of the enterprise's potential monopoly and competition behavior, such as the mode of internet enterprises through free strategy to attract users, through value-added services to earn profit. It is difficult to reflect the actual market markup. Finally, some scholars believe that the Lerner index does not apply to technology-intensive industries because the index ignores the technological progress, learning by doing and other dynamic factors. The internet industry is a typical knowledge-intensive, technology-intensive industries, the marginal cost close to zero, the Lerner index is often close to 1, easy to draw the industry in a complete monopoly. But in fact, the internet industry still maintains high degree of competition ([Fu et al., 2014](#)). In addition, the network externalities become a huge role for internet platform enterprises in the process of expansion which makes the industry form a "flow first" competitive mode, some emerging enterprises in the internet industry in order to get more users, would like to take predatory pricing and makes the price lower than the marginal cost; therefore, the Lerner index is negative, deviating from its value range. Some scholars have made improvements on the basis of the idea of the Lerner index, such as [Qu and Liu \(2016\)](#) use the "average price ratio" approach to reflect the market power of search engine field; the results show that market share and market power have obvious unequal, with the largest share of the platform enterprise does not have the strongest market power, and it is in sharp contrast with the view of SCP paradigm. But the results and the traditional research ideas are not in the same paradigm, and it is difficult to compare, and whether the conclusions of the new research framework can become a universal standard need be discussed in depth.

The NEIO, which emerged in recent years, is a further improvement of the SCP paradigm. NEIO method is a metrological method based on the micro-enterprise's behavior. It can effectively determine the enterprise's behavior of competitive or conspiracy and reasonable profit level. This approach emphasizes on the role of the actual data in the interpretation of competition. It is a useful supplement to the new industry organization theory which is mainly represented by Tirole, and the theoretical basis of government antitrust regulation. Unlike traditional empirical methods, this method constructs an empirical model based on the theory of microeconomics, and each parameter has practical significance. The coefficient of the model is used to represent the coefficient of the independent variable: industry market markup and scale flexibility.

The NEIO approach is a good way to describe whether market power exists and to determine the resulting welfare loss. NEIO method early used in the traditional manufacturing industry, which is easy to generate oligopolies. As [Roy et al. \(2006\)](#) added speculative variables in the NEIO approach to measure the market power of microprocessors, personal computers, paper towels, diapers, and the automotive

industry, [Zeidan and Resende \(2009\)](#) used this method to measure the Brazilian cement industry market power. Although internet market has a high degree of concentration, the study on measurement of its market power is rare. At present, some studies have noticed the market power measurement to some industries, which similar to internet industry. Like [Wang and Chen \(2007\)](#) measured the market power of post and telecommunications industry and point out that the market power has negative impact on the growth of the industry, [Yu and Fu \(2012\)](#) measured 29 provinces' market power of the power grid industry, the highest market power provinces is Guizhou. For the internet industry market power measurement, [Niu and Min \(2015\)](#) took the lead and measured the internet financial market power.

The advantage of this method is that it is based on the traditional theory, has a complete theoretical basis, through a set of methods to measure the industry's actual market power and not deviate from the traditional research paradigm. Conclusion can be compared with other industry measurement results and highlights the characteristics of the internet industry. Therefore, this article uses this method to calculate the internet platform enterprise market power actually.

### 3. Theoretical model

NEIO method has two comment approach in practice. The first approach is to build a measurement model through a requirement function or a cost function, the degree of competition (collusion) and market forces are estimated by the estimates; this approach results in strict requirement on the "price", which has led to the difficulty in measuring the power of the internet market. Another approach is that of [Hall \(1988\)](#) who first proposed "production method"; this method through the production function considers to eliminate the influence of various inputs of productivity; productivity growth is likely to gather from the market power. [Klette \(1999\)](#) proposed a new analysis framework based on the Hall model, which relaxed the premise of the Hall model's "scale pay invariance", and the model was more extensive. At the same time, the data of Klette model are derived from the enterprise level, which is beneficial to both market forces and scale effect. Therefore, this paper mainly selects Klette's model to measure the market forces of internet platform enterprises.

Klette's model is based on the new classical model of the analysis of macroeconomic problems in [Solow \(1956\)](#). For each enterprise, the production function is:

$$Q_{it} = A_{it}F_t(X_{it}) \quad (1)$$

Among them,  $Q_{it}$  and  $X_{it}$  represent the production vector and a set of input factor vectors for the enterprise  $i$  in  $t$  period,  $A_{it}$  is full factor productivity and the  $F_t(\cdot)$  is a production function. NEIO method need to set up a reference enterprise, the reference company reflect the average level of output of industry, with reference to existing research, this article uses the selection of the middle numerical as a reference of all corporate enterprises, the production function for reference company by  $Q_t = A_tF_t(X_t)$ , using multivariate generalized differential mean value theorem (multivariate generalized mean value, unseen) linearization, too:

$$\hat{q} = \hat{a}_{it} + \sum_{j \in M} \alpha_{it}^j \hat{x}_{it}^j \quad (2)$$

Among them, the “^” represents the logarithm linear differential variables with reference to enterprises, such as  $\hat{q} = \ln(Q_{it}) - \ln(Q_t)$ .

On the other hand, in the product market, the first order of profit maximization is:

$$A_{it} \frac{\partial F_t(X_{it})}{\partial X_{it}^j} = \frac{W_{it}^j}{(1 - 1/\varepsilon)P_{it}} \quad (3)$$

Among them,  $W_{it}^j$  as the price of factors of production,  $(1 - 1/\varepsilon)$  represents the ratio of price to marginal cost (P/MC), the market premium rate, with  $\mu_{it}$ , combined with formula (2):

$$\alpha_{it}^j = \mu_{it} \frac{W_{it}^j X_{it}^j}{P_{it} Q_{it}} = \mu_{it} s_{it}^j \quad (4)$$

$s_{it}^j$  is the ratio of the cost of the j component to the total revenue. To bring the upper into the formula (2):

$$\hat{q} = \hat{a}_{it} + \mu_{it} \sum_{j \in M} s_{it}^j \hat{x}_{it}^j \quad (5)$$

Formula (5) has been isolated from market premium variable but, by the way of the [Klette \(1999\)](#), [Chen \(2009\)](#) and others, here needs to separate capital investment (xk) from the formula (5), the main reason is that which can be concluded the total marginal productivity, namely, the scale elasticity estimates, in addition, capital as a special production factor, due to factors as tax, interest rates etc, does not apply to formula (4). The specific approach is  $\eta_{it} = \sum_{j \in M} \alpha_{it}^j$ ,  $\eta_{it}$  is the total marginal output rate of the i enterprise in t period, which can be regarded as the elasticity of scale, and the final linearization function model for the formula (5) is:

$$\hat{q} = \hat{a}_{it} + \mu_{it} \sum_{j \neq k} s_{it}^j (\hat{x}_{it}^j - \hat{x}_{it}^k) + \eta_{it} \hat{x}_{it}^k \quad (6)$$

This  $\sum_{j \neq k} s_{it}^j (\hat{x}_{it}^j - \hat{x}_{it}^k) = \hat{x}_{it}^m$  means that the product of the enterprise in addition to the capital investment, the product of total income, the [equation \(6\)](#), the return equation:

$$\hat{q} = \hat{a}_{it} + \mu_{it} \hat{x}_{it}^m + \eta_{it} \hat{x}_{it}^k + \varepsilon \quad (7)$$

It is important to note that using the NEIO approach does not require the price data, but from the perspective of the industry as a whole input–output measurement market power and flexibility, thus overcome the free internet industry business strategy and the structure of bilateral platform on difficulties caused by the empirical test.

## 4. The empirical analysis

### 4.1 Data declaration

Due to “internet platform class enterprise” being a relatively broad concept, involving a variety of business, different business has different business model, corresponding to different market, put together all of the “internet platform class enterprise” calculation goes against the original intention of the forces of the market. To make the article more

pertinence, we will choose the most mature e-commerce field of the platform type enterprise, and also the e-commerce enterprise that sells the commodities.

In the top 20 listed internet companies that accord with aforementioned conditions include in Jingdong Alibaba, Vipshop, Suningyigou, according to the statistical data provided by the website iwebChoice, these four companies basically cover the whole electric dealer market share of 90 per cent. To ensure data integrity, the time span is the second quarter of 2013 through the second quarter of 2016. To solve the endogenous problem, this paper uses the method of Klette, as a tool variable for the total number of employees and the pre-capital investment. The data is derived from the cash flow statement in the listed company's financial statements. The benefit is that this type of data suggests that operation is less likely and more realistic. The variables selected in this article include output, labor input, capital investment and management input, which basically covers the daily business activities of enterprises. The variables and methods are shown in [Table I](#).

#### 4.2 Estimate result

Because the data does not contain all of the electronic commerce enterprise, therefore, reflected individual differences should be a constant term as randomly distributed across individuals, using random effect variable intercept model to estimate. The measurement process is estimated by 2SLS and the estimated results are shown in [Table II](#).

#### 4.3 Result analysis

**4.3.1 Economy of scale and market power.** Economies of scale widely exist in the network industry is an indisputable fact. The results show that the scale elasticity of the internet platform enterprises is 1.153, indicating that the industry has appeared the economy of scale. On the other hand, [Bain \(1956\)](#) pointed out that economy of scale is the basis for the formation of monopoly. Once the enterprise forms a monopoly, it will make full use of its monopoly position and conspire with other monopolists to limit the output and raise prices to obtain excess profits. Whether the internet platform companies have monopoly power can be reflected by the market markup rate ( $\mu$ ).

| Variety          | Calculation method   | Data source  |
|------------------|--|--|
| Output           | –  | Directly corresponding to column of “main business income” in each enterprise financial statements   |
| Labor input      | Labor input = the total number of employees × average salary   | “Employees” from various enterprises “employees” in the financial statements, the average salary from the bureau of statistics released the information transmission, computer services and software unit employment staff average wages in cities and towns |
| Capital input    | Capital input = fixed assets × the benchmark interest rate for more than five years + new depreciation | “Fixed assets”, “new depreciation” from various enterprises in the financial statements “net value of fixed assets” and the “depreciation and amortization” items, more than five years in benchmark lending rate from the people’s bank of China website    |
| Management input | –  | Directly correspond to the “sales, administration and general expenses” in the financial statements of each enterprise   |
| % of input       | Each input proportion = labor (capital or management) input/main business income                       | –  |

**Table I.**  
Variable declaration

According to the traditional economics' point, in the perfectly competitive market, manufacturers in accordance with the marginal cost of pricing, so the market markup rate is 1, there is no market power. The statistical results show that the market markup rate is 0.757, less than 1. Indicating that companies have to put the price to a very low level, reflecting there is a high degree of competition in the internet platform companies. There are similar views before, such as [Fu et al. \(2014\)](#) who proposed that the internet platform industry 's market barriers are very low, there are a large number of enterprises to enter the industry, leading to the oligopoly enterprises in this industry still face high competitive pressure. There is another explanation for market markup less than 1. The number of users on the internet platform enterprises has hugely affected the profit, so enterprises often through free strategies or subsidies to attract users, resulting in a huge investment, the price is lower than the marginal cost of the situation. Even enterprises with high number of users in the internet industry still have the above characteristics, such as Jingdong and Suningyigou, have a situation of negative net profit in a very long period of time, taking these enterprises into the whole industry to analysis is bound to reduce the price and cost ratio, but reflects monopoly power level of the internet industry as whole.

Does the coexistence of economy of scale and market power due to the big market capacity – although there are large-scale enterprises in the market, but in general still meet the atomic structure?

To solve this problem, this paper further examines the market concentration in the field of e-commerce to verify the market structure. According to the SCP paradigm, using two types of index – CR and the HHI to calculation, the calculation method is:

$$CR_n = \sum_{i=1}^n X_i/X \tag{8}$$

$$HHI = \sum_{i=1}^n (X_i/X)^2 \times 10000 \tag{9}$$

where  $X_i$  represents the market share of the  $i$ th enterprise, with reference to the existing literature ([Fu et al., 2014](#); [Qu et al., 2016](#)), which is expressed as the number of users covered,  $X$  represents the total size of the market, the total number of users. It can be seen that the top four companies in the field of e-commerce (CR4) account for 97per cent of the market share and the  $HHI$  up to 4112.8 ([Table III](#)), Indicating that the industry market is highly concentrated.

The above results show that the highly concentrated market structure without the market power, the internet industry has achieved economy of scale and competitive vitality

**Table II.**  
Estimates of market forces and scale effects

| Variate                                      | Estimation results |
|--|--------------------|
| Constant term                                | 0.252 (1.387)      |
| $X^m$ (Market premium rate $\mu_{it}$ )      | 0.757 (4.722)***   |
| $X^k$ (The size of the elastic $\eta_{it}$ ) | 1.153 (10.340)***  |
| Adjusted R-squared                           | 0.938476           |
| Cross-section random                         | YES                |

**Note:** \*\*\*indicated at the level of 1%, the value of t in parentheses

compatibility, which is different from the traditional industry research. It is generally believed that the greater the market share, the greater the market power, such as [Chen and Zhou \(2013\)](#) measured the steel industry's HHI of 245.18, the market markup rate of 0.999 in the same way, in line with the argument that market share and market power are positively related. For the internet industry, the empirical results of this paper have the opposite result. [Qu and Liu \(2016\)](#) point out that cross-network externalities, asymmetric pricing, low marginal cost and other factors makes the internet platform manufacturers market share and market forces have obvious asymmetry. The empirical results of this paper also show that there is a deviation between the market structure and the market power in the internet platform industry. The inspiration here is that antitrust for the internet industry should not overemphasize market share, which may lead to antitrust enforcement affect competition efficiency, contrary to the original intention of antitrust.

4.3.2 *A way to crack the Marshall conflict.* On the whole, the internet industry has formed a scale economy and economies of scale did not produce monopoly power, there is still fierce competition. The traditional theory holds that competition efficiency and economies of scale are difficult to coexist - higher industrial concentration contributes to economies of scale but hinders the achievement of competitive efficiency, this phenomenon is called *Marshall Conflict*. Scholars are concerned about the issue that how to crack the *Marshall Conflict* makes economies of scale and competitive efficiency coexist. To solve this problem Academics put forward a variety of methods, such as Marshall proposed "Three Channel Theory", Virtual Enterprise Theory to solve this problem. But these two methods are not a good way to solve the *Marshall Conflict* The main problem is that these methods consider some environmental factors (such as transportation costs, entrepreneur life) and patterns (in the form of virtual enterprises to achieve risk sharing) can restrict the monopoly of large-scale enterprises, but ignores the enterprises' *Rational Person* characteristic which pursuit of economies of scale, did not join the business of conspiracy to discuss, on the contrary, the above factors are actually more likely to form market power. Clark has proposed "workable competition" which is considered as a solution to the *Marshall Conflict*. It is between a complete monopoly and a complete competition. But this theory rarely found realistic reflection.

The empirical results of this paper found that in the internet platform enterprises, there may be a way to crack *Marshall Conflict*. At the product level, the internet platform enterprise products have the basic characteristics of the "effective competition" theory. The product of these enterprises is service, for the users on both sides of the platform to provide trading bridge. The difference is that the type of two-side users may be different; such as the platform side of the enterprise may be manufacturers, individuals, or special needs of the manufacturers (such as the discounted goods manufacturers). This product characteristics of basic service is roughly the same, the service object slightly different similar to Clark's product moderately different. From the competitive mode point of view, the industry has a variety of competitive means. The internet industry has emerged a new format of technology integration, business integration and even industry integration, leading to the market boundaries are no longer clear, new market areas and new audiences are generated. This has led the internet companies began to transform into diversified operations, resulting

**Table III.**  
E - Commerce market  
concentration  
measurement results

| Index | CR <sub>1</sub> | CR <sub>2</sub> | CR <sub>3</sub> | CR <sub>4</sub> | HHI    |
|-------|-----------------|-----------------|-----------------|-----------------|--------|
| Value | 58.2            | 83.2            | 91.5            | 97.0            | 4112.8 |

in a variety of competitive means, so that successful enterprises do not have to monopolize any kind of product and then grow up. Finally, from the characteristics of the industry, innovation and network externalities plays an important role in the crack *Marshall Conflict*. As the internet industry does not need to rely on heavy asset investment driven, business model innovation is sufficient to subvert the industry, so that large enterprises are still facing the risk of being replaced, Innovation in the industry to support the competitiveness of the industry, Network externalities play a catalytic role for the industry to maintain competitive efficiency and economies of scale. Because the network externalities can promote the small and medium-sized internet platform enterprise expand market size rapidly, ensuring the formation of economies of scale but also to strengthen the competition between enterprises.

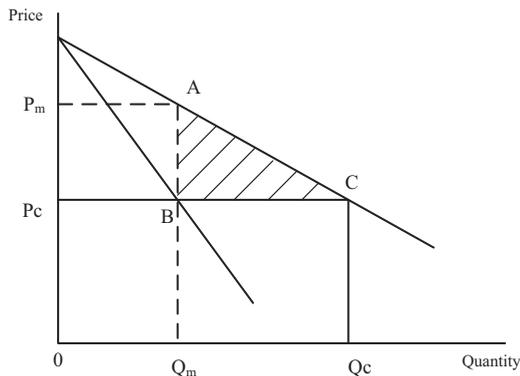
**5. Further discussion: welfare loss**

Excessive monopoly will cause welfare losses have become the consensus of the economic community. An important prerequisite for countries to implement antitrust practices is that monopolies lead to the emergence of market power – large firms raise prices above marginal costs, resulting in deadweight loss (DWL) or welfare losses. Thus, market forces and welfare losses are often studied as a whole. We have estimated the value of market power, which can be based on the analysis of the welfare loss of the industry.

Harberger (1954) established a social cost model to measure monopoly cost. We analyze the welfare changes caused by internet platform enterprises according to his ideas. Harberger argues that the loss of benefits from monopolies comes from the triangle between the pricing curve of the monopolist and the consumer demand curve (see the triangle ABC in Figure 1).

In the above figure,  $P_m$  and  $Q_m$  are the pricing and output at the market structure of monopoly, and  $P_c$  and  $Q_c$  are the pricing and output when the market is perfect competition. This part of the welfare change is calculated as follows:

$$\begin{aligned}
 DWL &= \frac{1}{2}(P_m - P_c)(Q_c - Q_m) = \frac{1}{2} \left( \frac{dP}{P_m} \right)^2 \times P_m Q_m \times \frac{P_m}{Q_m} \times \frac{dQ}{dP} \\
 &= \frac{1}{2} \left( \frac{P_m - c}{P_m} \right)^2 \times P_m Q_m \times \varepsilon \\
 &= \frac{1}{2} \left( 1 - \frac{1}{\mu} \right)^2 \times P_m Q_m \times \varepsilon
 \end{aligned}
 \tag{10}$$



**Figure 1.**  
Harberger triangles  
represent welfare  
losses

In the formula (10),  $\mu$  is the market power premium rate, according to the traditional analysis method, we can estimate the welfare loss through the industrial output value and elasticity coefficient ( $\varepsilon$ ). Harberger estimated the welfare loss due to monopoly is less than 0.1 per cent of US income, which based on the average of the 73 manufacturing industries in 1924-1928.

However, according to the analysis above, the internet platform enterprises' "monopoly" pricing is lower than the pricing at perfect competition. The traditional method of estimating the loss of welfare is not applicable, so that Figure 1 can be changed into the following form (Figure 2).

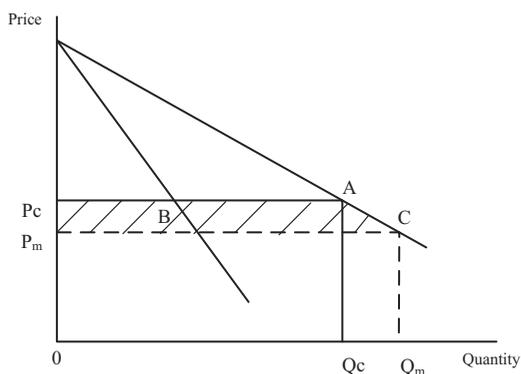
The shadow part in Figure 2 represents the internet platform enterprise welfare changes. The calculation is as follows:

$$\begin{aligned}
 \text{welfarechange} &= Q_c(P_c - P_m) + \frac{1}{2}(P_c - P_m)(Q_m - Q_c) \\
 &= \frac{1}{2}(P_c - P_m)(Q_m + Q_c) \\
 &= \frac{1}{2}(P_c - P_m)(Q_m + Q_c - 2Q_c) \\
 &= \frac{1}{2}(P_c - P_m)(Q_m - Q_c) + Q_c(P_c - P_m) \\
 &= -DWL + Q_c(P_c - P_m)
 \end{aligned}
 \tag{11}$$

The result of equation (11) consists of two parts. One part is the opposite of the welfare loss ( $-DWL$ ) and the other is a positive value. Indicating that characteristics of the internet platform enterprises' not only make up the welfare losses caused by monopoly but also enhance the welfare of consumers. In reality, e-commerce has indeed brought convenience and benefits to consumers.

There are two main reasons for this phenomenon: First of all, large-scale internet platform enterprises have produced economies of scale that can enhance social welfare, and, second, due to the characteristics of the internet industry, enterprises occupy a larger market share still face high competitive pressures, so there is no market power and price increases, and even the price set lower than the marginal cost, which did not produce welfare losses.

Because of social welfare is one of the main indicators for anti-trust regulation which is also difficult to measure. This paper gives the estimated ideas of the welfare losses, which



**Figure 2.**  
The welfare loss of  
the internet industry

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not only provide the reference for government regulation but also support the market share as antitrust standards are biased.

## 6. Conclusion and revelation

Internet platform enterprise market share is highly centralized from the structural point of view has been the formation of a monopoly or monopoly trend. In recent years, the voice of internet industry anti-monopoly is getting higher and higher. But the method that through the market share to determine the monopoly has been criticized by academics. In this paper, we use NEIO theory, measure the market power and scale flexibility of internet industry actually. Conclusion as below, first, the internet platform companies have a high market concentration, but do not have obvious market power, the industry still maintain a high competitive vitality; second, the internet platform companies have shown a scale effect and competitive vitality co-existence. The situation is a reality case to crack the *Marshall Conflict*. At the same time, as related issue closely to the market forces, this article also briefly discussed the welfare losses, according to [Harberger's \(1954\)](#) research framework, this paper found that the internet platform enterprises monopoly structure may do not cause welfare losses.

Compared with the existing literature, this paper directly measures the market power and economy of scale of internet platform enterprises. The empirical results of competition efficiency and scale effect co-existence are contrary to the traditional theory but provide a new inspiration for industry development and policy making.

### *6.1 Policy revelation: market share should not be used as the standard to determine the internet industry monopoly*

Many countries' anti-monopoly law is based on market share. The purpose of regulation is to prevent monopolists from abusing market dominance and unfair competition. From this point of view, the root cause of monopoly hazards is the use of market power, rather than market share. In traditional industries, the links between market share and market power are close, so it is reasonable to use market share represents with the market power that is not easy to observe. But in the internet and some emerging industries, innovation-driven and rapid technological change make industries' entry barriers are low, even with high market concentration, there is fierce competition, monopoly enterprises will not use market power, resulting in market share and market power's closed-loop disconnect. In this case, blind regulation will not only play a role in improving the efficiency of competition, but will lose the large-scale enterprises' economy of scale. Recognize monopoly of such industries, should focus on whether it has market power and the actual monopoly conduct.

### *6.2 Industry revelation: how traditional industries cracked the Marshall Conflict*

Internet platform companies have both a scale effect and a competitive vitality, which is reality embodiment to solve the Marshall Conflict. Because the internet industry can achieve economies of scale and competitive vitality coexistence, and this paper thought that the market share does not represent the monopoly. So, the traditional industry should change the idea and cannot blindly reject the emergence of large enterprises, but should focus on how to control large enterprises abuse market power. Learn from the characteristics of the internet industry, traditional industries can crack the Marshall Conflict. As mentioned earlier, the internet industry cracked the "Marshall Conflict" based on the basic characteristics of the industry (such as network externalities, innovation-driven, etc.), also need to have the basic characteristics of the business model and competition model. Traditional industries can solve the conflict between economies of scale and competitive

vitality along two paths. First, give new features to traditional industries and make it generate new models. Traditional industry “touch internet” can be seen as a change along this line of thought. At the same time, strengthen the role of innovation in the industry. Innovation to a certain extent weakened the dominance of large enterprises in the industry, small and medium enterprises can rely on technological progress and knowledge accumulation to become the industry leader, therefore, attention to industry innovation, support innovation enterprises can improve the traditional industries’ shortcoming of competitive vitality.

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