Analysis of Internet Rent from the Perspective of Marx's Rent Theory: A Case Study of Mobile Internet Applications

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Abstract: People are now tightly connected through mobile Internet applications, whether they are platform owners, renters, business professionals, or users. The presence of Internet Rent is concealed between platform owners and renters of mobile Internet applications, according to Marx's rent theory. Owners of platforms lease out data land and charge Internet Rent to renters. Similar to land rent, Internet Rent demonstrates differential rent. However, due to the instantaneous replicability of data flow activities and the impact of network externalities, the former still differs from the latter in terms of social relationships, the existence of Absolute Rent, and the form of Differential Rent II.

Keywords: Internet Rent, Marx’s Rent Theory, Mobile Internet applications, Data land.

1. Introduction

Since 1969, the Internet has surged from its birthplace in the United States to every corner of the globe. Beginning with the age of wide-area computer networks in the 1960s, moving on to the first wave of investment frenzy powered by the World Wide Web in the 1990s, and finally to the mobile Internet era in the 2010s, defined by intelligent mobile phones as the medium. With the arrival of 5G technology, the Internet is ready to enter a new era of intelligent interconnectedness, leaving us confused as to when this wave known as the Internet will reach its apex.

China has emerged as a major player in the global Internet sector, thanks to the fast expansion of Internet mega platforms such as Huawei, Baidu, Tencent, Alibaba, and ByteDance. According to the 48th Statistical Report on the Development of China’s Internet published by the China Internet Network Information Center (CNNIC) in August 2021 (hereinafter referred to as the Report), the number of Internet users in China had reached 1.011 billion by mid-2021, with mobile Internet users accounting for 1.007 billion, accounting for a staggering 99.6% of the total. In terms of population, China's Internet penetration rate has surpassed 70%, beating the global average of 65.6%. The enormous size surely supports the robust growth of mobile Internet apps, with numerous applications such as online films, online commerce, and search engines inundating people's daily life. The statistical data from the Report gives a view into the overall landscape: as of June 2021, the user base for online films topped 940 million, the user base for online commerce exceeded 810 million, and the user base for search engines was about 800 million.

Currently, the economic analysis of mobile Internet application development is mainly approached from the perspective of Western economics, utilizing its theoretical framework to analyze the underlying economic activities, such as monopolies and information asymmetry. From a political economy perspective, the application of Marxist economic theory for analysis is rather uncommon. However, the Internet presents a new challenge for Marxist rent theory and also an opportunity for its development. This paper attempts to use Marxist rent theory as a foundation to go beyond the concept of "physical land" to explain the unique phenomenon of platform rent in the Internet age. It also aims to study the "Internet Rent" and its specific forms behind mobile Internet applications, thereby enhancing the explanatory power of Marxist rent theory in the Internet age. The goal of this paper is to provide theoretical support for the development of the domestic Internet economy from a fresh perspective.

2. The Evolution of Marx’s Rent Theory

In Chapter 6 of Volume 3 of "Capital," Karl Marx internalized the rent theory of classical political economists such as Adam Smith and David Ricardo. Building upon his labor theory of value and theory of surplus value, Marx revealed the foundations of rent, the existence forms of rent, the attributes of rent, and the development laws of rent in the context of capitalist production dominating agriculture.

The agricultural rent theory, which forms a significant theoretical system in the localization of Marx’s Rent Theory in China, has been influential. As early as the 1980s, Wu W(1983) quoted the theory of differential rent, exploring common issues in Chinese agriculture during the planned economy era, such as the irrational distribution of production resources due to the absence of the concept of marginal land and the dispersed use of agricultural funds due to the absence of intensive farming concepts. Yang D(2001) further studied the implications of rent theory for the reform of land systems, the input of agricultural capital, and the formulation of land tax policies under modern economic conditions. This also laid the foundation for subsequent research on Marx’s Rent Theory in China, particularly in relation to the farmland expropriation, farmland property rights systems, as well as the separation of powers in farmland.

Marx’s Rent Theory not only extensively discusses agricultural rent but also expands its dimensions to include building rent and mining rent. He states: "As a capitalist who rents land, to obtain permission to use his capital in this
particular place of production, he must pay a certain amount of money to the landowner, the owner of the land he developed, within a certain period (for example, every year) according to the contract (just like the borrower of a capitalist who pays a certain interest). This amount of money, whether paid for arable land, building lots, mines, fishing grounds, or forests, is collectively referred to as rent” It is Marx’s exposition in Capital that enables future generations to break free from the agricultural perspective and develop theories of urban rent.

Inspired by David Harvey, Michael Ball, Anne Haila, and others, China's urban areas have developed rapidly after the reform and open policy, with urban regions expanding outward, intense fluctuations in land finance and real estate prices, and other practical issues. These factors have also prompted Chinese scholars to turn their attention to the study of urban land rent theory based on Marx’s Rent Theory. Pan Y et al.(2012) view urban construction land rent as an effective economic leverage, with Absolute Rent regulating the intensive use of urban land, differential rent regulating the rational layout of urban land, and monopoly rent regulating the rational use of urban land. Sun L et al.(2009), through an investigation of real estate and land rent distribution in the construction industry, argue that the essence of real estate investment profit lies in land rent. Deng Y(2018), building on Sun L’s theoretical research, further explains the fact that urban land rent decisively contributes to urban real estate prices from a quantitative perspective. As urban regions expand outward, causing differential rent to increase, the phenomenon of rising housing prices appears.

In the process of Sinicizing Marx’s Rent Theory, in addition to studying rural land rent and urban land rent, some research has crossed over into new categories such as physical land rent to regional resource endowment, spatial rent, and digital rent. Among these, Ren Z et al.(2021) have investigated a new type of capitalist platform capital known as “digital rent” that captures surplus value through the ownership and management of data and digital labor. This research fully demonstrates the potential explanatory power of rent theory in the new era, providing insights into the economic behaviors behind mobile Internet applications in this paper.

3. Brief Description of Mobile Internet Applications

3.1. The operation mode of mobile Internet applications

According to the report released by CNNIC mobile Internet applications in China can be mainly categorized into 18 types, including instant messaging, short videos, online payments, online commerce, search engines, and webcast. This study focuses on mobile applications in the areas of online commerce, search engines, and webcast.

In the era of mobile Internet, the operation of mobile applications necessitates many connections between platform owners, renters, practitioners, and users. Platform owners of mobile Internet applications establish exclusive domains in the online space through the accumulation of capital and technology, which are manifested in the form of mobile applications in real life. As renters, capitalists have to pay a certain amount of money to the owner according to the contract terms (e.g., annually, quarterly, or monthly), so as to engage in economic activities within the platform owner's exclusive domains. Renters employ a certain number of practitioners to provide goods or services to users, and it is also common for renters to act as practitioners themselves.

Specifically, the roles of renters and practitioners vary across different mobile Internet applications. In online commerce applications, renters are typically store merchants who establish online sales channels to attract more users. They often pay a certain amount of deposit to join the online commerce platform and hire store managers, customer service representatives, graphic designers, web store editors, and product shippers to operate their stores. In search engine applications, renters are usually website owners who aim to enhance their corporate image and visibility to gain more potential income. They need to pay a certain service fee to ensure their websites are indexed by relevant search engines and hire graphic designers, backend programmers, and server maintenance personnel to continuously maintain and manage their websites.

In webcast applications, renters are generally MCN (Multi-Channel Network) institutions that act as intermediaries between webcast platforms, content creators, and advertisers. They need to pay a certain amount of deposit to the webcast platform and hire anchors, assistants, stage managers, photographers, and data operators to further monetize their current income (tips from viewers in live rooms) and derived income (benefits from brand collaborations brought by traffic), thereby realizing their value.

3.2. Typical Characteristics of Data Flow Activities in Mobile Internet Applications

Platform owners build mobile Internet apps employing hardware such as computers, fiber optics, servers, etc., as well as coding and other data flow. Once a well-built mobile Internet application achieves its target requirements, it can be released onto the market. Physical work and virtual labor are the two primary categories of labor used in this procedure.

Physical labor occurs during the phase where platform owners use network infrastructure and labor to build the application, incorporating human labor into it. Virtual labor occurs in the phase after the application is launched into the market, where the main activity is the flow of virtual data streams, with little involvement of human labor. The value produced by physical labor is greater than the value produced by virtual labor, which might be deemed to have no worth at all. As a result, the primary focus of this work is on the data flow activities that constitute virtual labor in mobile Internet applications.

Marx believed that commodities have a dual nature, possessing both value and use value. However, data flow activities do not create value, so they do not fit the general definition of commodities. However, according to Marx, “Some labor products for exchange are not commodities themselves, such as conscience, reputation, etc., but can also be sold by their owners in exchange for money and obtained in the form of commodities through their prices.” It is clear that data flow activities fit this description. They have no value, but after being commercialized, they take on the form of commodities. Furthermore, an analysis shows that data flow activities, which have the form of commodities, mainly possess the following three typical properties:

3.2.1. Instant replicability and zero marginal cost

Unlike general commodities, data flow activities in mobile Internet applications have instant replicability. To fulfill the needs of the lessee, they can quickly create new data streams
With minimal production inputs and personnel expenditures. Even creating identical commodities takes a large amount of fixed costs and variable costs for general commodities, much alone if new commodities can be generated instantaneously. It is also unusual that data flow operations have zero marginal cost. Following the development of the fundamental data streams for mobile Internet applications, platform owners may instantly replicate the current data streams and lease them to lessees. Data streams don’t need a lot of storage space since they are virtual things rather than tangible goods. As a result, data flow operations are no longer scale-bound and frequently have zero marginal costs.

3.2.2. Network externality

Network externality, also known as demand-side economies, refers to the situation where the utility and demand for a product varies in the same direction. In the use of mobile Internet applications, the more lessees rent data streams from platform owners, the higher utility the mobile application brings to the lessees. Taking webcast platforms as an example, when the number of MCN companies collaborating with a webcast platform increases, the number of broadcasters on the platform also increases, attracting more viewers to the platform. The increase in viewership then leads to an increase in the flow of broadcasters, generating revenue for the MCN agencies.

3.2.3. Infinite scalability

The infinite scalability of data flow activities is determined by their freedom in time and space. The production of general commodities requires advanced planning, with fixed production time and storage space, which limits the development scale of physical enterprises to moderate expansion rather than unlimited expansion. However, the existence of data flow activities is in the virtual space of the Internet, without the time and space constraints of traditional physical commodities produced in the physical space. Therefore, the supply elasticity of data flow activities in mobile Internet applications is large, and its scale mainly depends on the demand for the lessees. Ignoring the minimal cost of data flow activities in terms of storage capacity, theoretically, as the demand of lessees continues to increase, the scale of data flow activities can surpass physical limitations and tend towards infinite scalability.

4. A New Form of Marx’s Rent Theory in the Internet Era - Internet Rent

4.1. Ownership of Internet Data

Similar to the topic of land ownership in Marx’s Rent Theory, ownership of Internet data has emerged in the operation model of mobile Internet applications. Through original capital and technology accumulation, platform owners build mobile Internet applications in the cyberspace of data flow activities. These mobile Internet applications’ data flow activities are monopolized by their owners, creating an exclusive realm that excludes all others and only obeys the owner’s desire. Under this premise, ownership of Internet data is born. In the modern legal system, this ownership of data is also referred to as software copyright, which aligns with Marx’s mention of different forms of rent.

There are two characteristics of this ownership of Internet data:

4.1.1. Ownership of data is separated from the data operation rights of mobile applications.

After acquiring the basic data flow, the landowner of the mobile Internet application possesses a large amount of data flow activities due to the instantaneous replicability of data flow activities. With their ownership of Internet data, they often choose not to engage directly in production and operation within the mobile Internet application, but instead lease the data flow activities they possess to renters, establishing a capitalist mode of production based on leasing data flow activities.

4.1.2. Ownership of data is separated from the dependence of the worker’s person on the data.

Employees in the mobile Internet industry do not have a personal attachment to the platform owner, but are merely free laborers who sell their labor. They are neither slaves nor serfs, directly belonging to the means of production, nor are they like self-employed farmers who own the means of production. On the contrary, they are liberated from the means of production. Once separated from the means of production, they lose access to the means of production.

4.2. Formation of Internet Rent

Figure 1 illustrates the operating mechanism of mobile Internet applications. The functioning of these applications relies on the involvement of three main entities: platform owners, renters, and relevant practitioners. The connection between platform owners and renters is defined by platform owners lease data flow activities to renters in order to fulfill the demand of capitalist renters who use mobile Internet apps for their production and operational activities. In this contractual agreement, renters pay the platform owners a certain amount of money, known as Internet Rent, for the period of the lease. The rented data flow activities are referred to as data land.

The relationship between renters and practitioners is characterized by renters employing Internet practitioners to engage in production and operation within mobile Internet applications. A portion of the surplus value taken from the exploited labor of practitioners, known as excess profit, is given to platform owners in the form of rent.

4.2.1. Data Land

In Traditional Rent Theory, land (including water in economic terms) initially provided food and other essential resources for human beings. It existed as the general object of human labor without assistance from humans. Similarly, the data flow activities of mobile Internet platforms, due to their instantaneous replicability and zero marginal cost, can be considered virtual labor. Therefore, they are treated as labor objects that naturally exist for relevant practitioners. This aligns with the essence of the land, making these rented data flow activities comparable to land in the Internet era. In this paper, we refer to them as data land. Like traditional land, data land is a natural means of production that exists without

![Figure 1. Operating mechanism of mobile Internet applications](image)
human assistance. It has use value but no value and does not determine the general production price of commodities. However, due to the existence of private ownership of means of production, it can still be exchanged with labor products, thus possessing exchange value.

### 4.2.2. Internet Rent

As mobile Internet products or services develop in value and the conditions for their realization, the power of Internet data ownership also grows. This allows it to claim a larger share of the value generated without its direct involvement, and convert a piece of surplus value into Internet Rent. Data ownership also grows. This allows it to claim a larger and the conditions for their realization, the power of Internet Rent. It's worth mentioning that Internet Rent is divided into two categories: general Internet Rent and narrow Internet Rent. Narrow Internet Rent refers to the entire monetary amount that renters pay to platform owners purely based on Internet data ownership. Marx considered this narrow rent as the "true rent." General Internet Rent, often known as rent in a broader sense, refers to the monetary amount paid by renters to platform owners in exchange for the right to utilize data flow activities. General Internet Rent includes narrow Internet Rent, data land capital and its interest, a portion of average profit, and wages. Among them, data land capital refers to the capital invested in data flow activities, which manifests in various forms such as storefront resources purchased by merchants in online commerce applications, paid traffic purchased by MCN institutions in webcast applications, and search engine marketing in which website owners pay for advertisements to generate website traffic.

### 4.3. Internet Rent Differentia

For mobile Internet platforms, the data flow activities provided by different platform owners are not identical. Data flow activities are often constrained by the technological and service levels of the basic data flow of mobile Internet applications, which results in different levels of data land. These lands possess different productivity differentials before being rented out to renters. This differentiation forms the basis for Internet Rent Differentia.

When renters operate data lands of different levels, the surplus profit derived from the price difference between the social production price and individual production price of Internet products or services, determined by the lowest-grade data land, constitutes the Internet Rent Differentia.

The main factors influencing Internet Rent Differentia are the technological and service levels of the basic data flow of mobile Internet applications. The technological level of the basic data flow is reflected in the server scale, spatial complexity (The length of the memory unit occupied by the program written according to the algorithm during its execution. Algorithms with too much spatial complexity may cause an overrun of the memory used, resulting in abnormal program interruptions.) and temporal complexity (The amount of time spent by the algorithm-written program during execution. Inefficient algorithms with excessive temporal complexity may result in lengthy wait times for execution results) of algorithms, the performance of data storage devices, and security of communication network transmission channels used by mobile Internet platform owners. The higher the technological level of the basic data flow, the higher the level of data land provided to renters through instantaneous replication, resulting in higher output and Internet Rent. The service level of the basic data flow is reflected in the target audience range, the level of user interface interaction, the data analysis capabilities of user behavior, and marketing and promotion support of mobile Internet applications. The effect of the service level of the basic data flow is consistent with that of the technological level. With service level improvements, the corresponding output and Internet Rent also increases.

Taking Alibaba, the top net profit earner in China's online commerce applications from 2016 to 2021, as an example. In terms of technological level, it has established green and energy-efficient intelligent data centers, modular and customized servers, and integrated operation and maintenance centers to ensure its basic data flow's leading technological position in the field of online commerce. In terms of service level, it provides an experiential learning think tank platform, several special large-scale marketing activities, and a computing platform that combines graph computing, stream computing, and advanced computing to give renters an effective way to increase data land productivity.

Similar to Traditional Rent Theory, Internet Rent Differentia I can also be divided into two categories.

#### 4.3.1. Internet Rent Differentia I

When equal amounts of capital are invested in equal storage units of different grades of data land with different productivity, the first type of Internet Rent Differentia, known as Internet Rent Differentia I, is created.

According to the current fee standards for merchants on mobile Internet applications, Internet Rent Differentia I is paid by renters in two ways: Initially, it is expressed as a deposit, also known as entry fees; subsequently, it is mainly expressed as platform usage fees and technical service fees, with platform usage fees settled monthly. In online commerce applications, platform service fees are a fixed monetary amount calculated based on a certain operating period, while technical service fees are a percentage based on the sales amount (excluding shipping fees) of the goods or services provided by the renters.

Taking the online commerce platform JD.com as an example, renters operating different categories of stores pay different amounts of store deposits, platform usage fees, and technical service fees, as shown in Table 1.

#### 4.3.2. Internet Differential Rent II

The second form of Internet Differential Rent, abbreviated as Internet Differential Rent II, refers to the conversion of excess profits generated by the differential productivity resulting from the continuous investment of equal capital on the same data land into rent. Renters commonly pay Internet Differential Rent II to platform owners in the form of marketing expenses, traffic expenses, and resource placement (A space that the platform owner provides the renter to promote their items to increase traffic and sales.) expenses, to precisely target users and achieve multiple exposures, thereby improving productivity.

Search engine applications primarily incur the first two types of expenses, which are often manifested as search promotion expenses, information flow advertising expenses, and SEM bidding advertising service expenses. Webcast applications primarily incur traffic expenses, often in the form of information flow promotion expenses. Internet shopping applications have the most diverse forms of Internet Differential Rent II, encompassing all mentioned forms. Table 2 partially presents the specific forms of IDR II that JD platform renters can choose to pay.
Table 1. Overview of Fees for Some Maternity and Baby Categories on JD Open Platform

<table>
<thead>
<tr>
<th>Primary Category</th>
<th>Secondary Category</th>
<th>Tertiary Category</th>
<th>Rate</th>
<th>Platform Usage Fees</th>
<th>Store Deposits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maternity and Baby</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Children's Shoes</td>
<td>—</td>
<td>8.00%</td>
<td>8.00%</td>
<td>1,000</td>
</tr>
<tr>
<td></td>
<td>Children's clothing</td>
<td>Socks</td>
<td>5.00%</td>
<td>5.00%</td>
<td>1,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bibs</td>
<td>8.00%</td>
<td>8.00%</td>
<td>1,000</td>
</tr>
<tr>
<td></td>
<td>Diapers</td>
<td>—</td>
<td>2.00%</td>
<td>2.00%</td>
<td>1,000</td>
</tr>
<tr>
<td></td>
<td>milk powder</td>
<td>—</td>
<td>3.00%</td>
<td>3.00%</td>
<td>1,000</td>
</tr>
<tr>
<td></td>
<td>Safety seats</td>
<td>—</td>
<td>3.00%</td>
<td>3.00%</td>
<td>1,000</td>
</tr>
<tr>
<td></td>
<td>Maternity Products</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Maternity Wear</td>
<td></td>
<td>5.00%</td>
<td>5.00%</td>
<td>1,000</td>
</tr>
<tr>
<td></td>
<td>Postnatal Body Shaping</td>
<td></td>
<td>4.00%</td>
<td>4.00%</td>
<td>1,000</td>
</tr>
<tr>
<td></td>
<td>Pregnancy Nutrition</td>
<td></td>
<td>3.00%</td>
<td>3.00%</td>
<td>1,000</td>
</tr>
</tbody>
</table>

Note: Data in Table 1 are summarized by tariff information on Jingdong online commerce applications in 2022.

SOP: Sale On pop, refers to merchants selling goods in Jingdong, and merchants packing and delivering consumer orders on a daily basis by themselves or by express delivery.

FBP: Fulfillment By POP means that the merchant sells the goods in Jingdong, Jingdong provides warehousing to manage the goods sold, and completes the delivery and collection of the shopping orders.

Table 2. Partial Promotion Tools Provided by JD for Merchants

<table>
<thead>
<tr>
<th>Form of Rent</th>
<th>Specific tools</th>
<th>Achievement</th>
<th>Fees</th>
</tr>
</thead>
<tbody>
<tr>
<td>marketing expenses</td>
<td>Jingjun Assistant</td>
<td>Automatically add keywords and modify product prices to improve promotion efficiency.</td>
<td>200</td>
</tr>
<tr>
<td>traffic expenses</td>
<td>Shopping touchpoints</td>
<td>Choose clustered advertising before, during, and after shopping according on the user's shopping path to draw in customers.</td>
<td>Pay for performance</td>
</tr>
<tr>
<td>resource placement expenses</td>
<td>Jingdong booth</td>
<td>Set up advertisements on the platform's main page, focus map, and other prominent resource areas.</td>
<td>Pay for performance</td>
</tr>
</tbody>
</table>

Note: Data in Table 2 are summarized by Jingdong online commerce applications in 2022.

4.4. Internet Absolute Rent

Internet Absolute Rent is another fundamental form of Internet Rent. Due to the monopoly of platform owners over data land, renters must pay a fixed amount to the platform owner when renting data land, regardless of productivity. This amount is referred to as Internet Absolute Rent.

Marx mentioned in his Rent Theory: "If the average composition of agricultural capital is equal to or higher than the social average capital composition, then the aforementioned Absolute Rent, which is different from differential rent and rent based on true monopoly prices, will disappear." This indicates that the formation of Absolute Rent is that the organic composition of agricultural capital is lower than the social average capital composition.

Liu G and Li X(2020) conducted a quantitative analysis of the organic composition of capital with and without the addition of artificial intelligence technologies, relying on annual data from the China Statistical Yearbook. He discovered that workers in the software and information technology services industry earn more than the social average wage, and that the increase in variable capital exceeds the increase in constant capital, implying that the former has a lower organic composition of capital than the latter. This indicates that the organic composition of capital in the Internet industry is lower than the social average, meeting the conditions for the formation of Internet Absolute Rent.

Therefore, Internet products or services are sold according to their value, and the difference between their prices and social production prices forms Internet Absolute Rent.

In mobile Internet platforms, Internet Absolute Rent is mainly manifested in the form of security deposits and platform usage fees, although some platform users may not charge platform usage fees.

Taking online commerce applications as an example, different platform owners charge slightly different minimum security deposits and platform usage fees, as shown in Table 3.

Table 3. Rules for Security Deposits in Online Commerce Applications

<table>
<thead>
<tr>
<th>Online Commerce Applications</th>
<th>Store Deposit Amount</th>
<th>Platform Usage Fees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tmall</td>
<td>Three grades: 50,000, 100,000, and 150,000</td>
<td>Two grades: 2,500 and 5,000</td>
</tr>
<tr>
<td>Tmall Global</td>
<td>Two grades: 150,000, and 300,000</td>
<td>Two grades: 2,500 and 5,000</td>
</tr>
<tr>
<td>JD</td>
<td>Two grades: 30,000, and 50,000 some up to 60,000, 100,000</td>
<td>commonly 1,000</td>
</tr>
<tr>
<td>JD Global</td>
<td>commonly 95,090 some up to 190,179</td>
<td>commonly 6,339</td>
</tr>
<tr>
<td>Koala Haimai</td>
<td>10,000 - 100,000</td>
<td>—</td>
</tr>
<tr>
<td>RED</td>
<td>commonly 20,000</td>
<td>—</td>
</tr>
</tbody>
</table>

Note: Data in Table 3 are summarized by the margin rules of each online commerce Applications.
5. Differences between Internet Rent and Land Rent

As a new development of Marx’s Rent Theory in the era of mobile Internet, Internet Rent inherits the essence of Traditional Rent Theory but does not completely replicate it. There are still some differences between the two.

5.1. Differences in Social Relations

Traditional Rent Theory is mainly based on the social relations among landowners in the agricultural sector, industrial capitalists (landlords), and hired workers, as well as the corresponding modes of production and behavior. In contrast, Internet Rent in this paper focuses on the study of platform owners, renters, and practitioners. The renters and practitioners correspond to the industrial capitalists and hired workers in Traditional Rent, respectively, without undergoing essential changes.

However, the previous landowners have become platform owners, who, unlike the former, possess only a limited amount of physical land. Utilizing instantaneous replication, without considering the small storage cost per unit of data land, platform owners theoretically have the potential to own unlimited data land.

5.2. Differences in the Existence of Absolute Rent

As long as private land ownership exists, traditional landowners will continue to receive Absolute Rent. Otherwise, they would prefer to let the land lie fallow. "Would landowners rent out the land for nothing, when the market price of land products has risen to such a degree that investment on this land can enable the landlord to obtain the production price and thus obtain ordinary profits? Without a doubt. The Investment must provide him with rent. Only by receiving rent will he rent out the land”.

Data flow operations, however, entail externalities for platform owners. Therefore, in rare cases, there may be situations where Absolute Rent is not charged to attract popularity. Taking the online commerce application Pinduoduo as an example, the platform owner does not charge platform usage fees or technical service fees. Renters also have the option of not paying the deposit upon entry. However, their stores are subject to specific restrictions in terms of cash withdrawals, participation in events, and setting product value and stocking limits.

5.3. Differences in the Form of Internet Differential Rent II

For traditional land's Differential Rent II, various scenarios occur when renters make additional investments in land, such as productivity being unchanged decrease, or increase, leading to changes in production prices. Individual renters' additional investments might be considered to have unforeseen outcomes.

However, with the progress of the times, a form of Internet Differential Rent II has emerged, namely, paying based on results. Renters can set their desired advertising effects in the tools provided by the platform owner and pay a certain amount of money. After the rental period ends, the platform owner evaluates the advertising effects. If they do not meet the expected results, a certain proportion of the amount will be refunded. This encourages renters to increase their investments in data land in order to increase production, resulting in a win-win situation. Taking search engine advertising costs as an example, the fee is only charged when users have search demands and actively click to learn more about the renter’s promotion. If users do not click, no fee is deducted, and the renter can still benefit from free exposure and display.

6. Conclusion

Since "Capital" was first published more than 100 years ago, the Marxian rent theory has been around. Marx's idea of rent has continually developed and proven to be brilliant, from agricultural rent to urban rent to virtual rent today. The creation of mobile Internet apps in the contemporary Internet era has given rise to a new variation on Marx’s Rent Theory known as "Internet Rent.” It indicates that platform owners acquire ownership of data land by their initial financial investment and technology accumulation, and that in exchange, renters pay the platform owners money in the form of rent in order to be allowed to access the data flow, also known as "data land." Examples of this rent include security deposits, platform usage fees, technical service fees, marketing expenses, traffic costs, and resource space fees. This paper has revealed the existence of Internet Rent and briefly described its basic form. The theoretical value of Internet Rent awaits further exploration in future research.

Declarations

Conflict of interest The authors have no relevant financial or non-financial interests to disclose.

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