Problems and Countermeasures of Industrial Land Transformation from the Perspective of Transaction Costs

Weiwei Zhou
School of Public Administration, Southwest of Minzu University, Chengdu, Sichuan, China

Abstract
The importance of deepening the mode of conversion of industrial land use in the context of new business is self-evident. However, in concrete practice, there are still many difficulties and challenges in the conversion of industrial land, such as the slow progress of conversion, the difficulty of land transfer, and the reluctance of land right holders to convert. One of the major reasons for the difficulty of conversion is the high transaction cost behind conversion, which makes it difficult to transfer industrial land and increases the complexity of converting inefficient and stocked industrial land. So to date, few academics have analyzed the transformation of industrial land in depth from the reason of transaction cost. Thus, this paper will analyze the reasons for the difficulty of industrial land transformation from the transaction cost theory in new institutional economics, and try to put forward corresponding countermeasure suggestions, so as to provide new perspectives for relevant departments and scholars to promote the study of industrial land transformation.

Keywords
Industrial Land; Land Use; Transaction Costs; Countermeasures.

1. Introduction
With the continuous development of the economy and society, especially in recent years, the innovation of information technology, industrial modernization and consumer demand have promoted the continuous differentiation, integration and cross-border fusion of business models, as well as various modes of industrial development, and the continuous creation of new business forms [1]. The development of industries is carried by industrial parks, and the development of each industry requires a certain amount of land, and the amount of land required and the efficiency of land use vary from industry to industry. Especially since entering the era of Industry 5.0, the rapid development of new business and new industries, whose land use is characterized by the integration of research and development and manufacturing and other activities, the mix of multiple land use types, and the diversity of land use requirements [2], are significantly different from the previous traditional industrial land use, whether in terms of spatial layout, carrier form, or land use duration. In this context, how to promote the transformation of industrial land use, the use of the original industrial land to build new industries, new business project land has become an urgent problem.

The transformation and reuse of industrial land is an important issue for western urban planning scholars. With the rise of industrial revolution after World War II, developed countries in the West, represented by the United States, Britain and France, have begun to transform and upgrade their industrial structure, and correspondingly, the transformation of inefficient industrial land has been gradually emphasized. Compared with western scholars, although domestic scholars have begun to pay attention to the problem of urban inefficient land use, but the beginning time is relatively short, and more focused on the phenomenon of commercial and residential land development, the transformation of low-efficiency industrial land is less in-
depth attention to the problem. Since the 1980s, China's social and economic level has developed rapidly, and at the same time, the demand for urban construction land has also shown rapid growth. Many scholars have noticed that there are problems with the current situation of industrial land in China, driven by economic goals, the supply of industrial land across the country is almost fully satisfied [3]. Not only did enterprises get a lot of land from it, but also created huge financial gains for local governments. However, due to the shortage of land resources as well as the continuous development and upgrading of industry, the drawbacks of the lease system are gradually revealed. On the one hand, there is a strong demand for industrial land, on the other hand, there is an insufficient supply of industrial land and the contradiction between the two is becoming more and more prominent, while the land supplied previously is mostly in the state of idleness or inefficiency [4].

In the context of the new industry, it is no longer desirable to promote industrialization and urbanization by expanding the scale of land use, and improving the output rate per unit of land area is a proven method [5]. Based on these new problems and new needs, governments around the world have also taken on inefficiently developing enterprises and explored the potential of tapping stock and inefficient industrial land, and many scholars have begun to turn to the significance and ways of industrial land transformation. Some scholars such as Meilin (2022) [6], Gu Yuewen and Lv Ping (2021) [7,8], Qiu Rongxu (2015) [9], Yang Shiqi and Ton Mingming (2022) [10] use game theory, externality theory, property rights theory, institutional path dependence theory, etc., to analyze the mechanism of the generation of low-efficiency industrial land in China, the mechanism of the allocation and renewal; some scholars, such as Shu Bangrong (2009) [11] and Lu Zhenhua (2012) [12] have explored the development path of inefficient industrial land in China from the perspective of macro policy; other scholars, such as Zhang Chuanyong and Wang Fenglong (2020) [13], Liu Tianqiao (2017) [14], and Han Bo (2022) [15] have explored the reutilization mode and countermeasures of inefficient industrial land in China based on the actual situation of each place and typical cases. were explored.

Through the transformation and upgrading of industrial land, on the one hand, overcapacity and backward enterprises can be eliminated to achieve the purpose of optimizing and adjusting the industrial structure; on the other hand, the rational use of inefficient and stocked land can effectively improve the efficiency of the use of urban land and achieve the purpose of the value-added gains of urban land [16]. Although many scholars have proposed many ways of industrial land transformation, in practice, industrial land transformation still faces many problems, which deeply affect the quality and efficiency of transformation and upgrading. The existing research mainly contains the background and reasons of the original industrial land, the externality of the old industrial areas, etc. So far, very few people in the academic community on the transformation of industrial land from the transaction costs of this reason for in-depth analysis, which gives the writing of this paper provides some space and possibilities, this paper plans to target this issue for the corresponding expansion and research.

2. Difficulties in Transforming Industrial Land

Since there is no clear definition of industrial land transformation in the academic world, the industrial land transformation studied in this paper mainly refers to the change of urban functions, resulting in the original industry no longer adapting to the new positioning, which leads to the change of the nature of the land from the general industrial land to the new industrial land, commercial land or residential land. Among the many problems affecting the transformation of industrial land, the high transaction cost is one of the deep-rooted causes of these problems. This high transaction cost makes it difficult to grant industrial land and increases the complexity of its transformation. The current pain points of industrial land transformation in China are mainly:
2.1. High Transaction Costs Due to Mis-allocation of Property Rights

In the theory of the new school of institutional economics represented by Coase, the construction of the property rights system is very critical, clear property rights system, optimize the distribution of property rights can reduce transaction costs. It is precisely because of the existence of transaction costs, it is necessary to allocate these rights through the arrangement of the property rights system, in order to make the most effective use of these rights, so as to improve the efficiency of the allocation of resources [17]. Thus, both the definition of property rights and transactions are essential to improve the efficiency of resource allocation. The irrational allocation of property rights of urban land resources in China is the main factor leading to high transaction prices. This deviation from Pareto optimality due to imperfect institutional arrangements is also an important transaction cost.

The initial property rights allocation of urban industrial land is completely dominated by the government, which results in high implementation costs, including: a)Decision-making costs, which refers to the government's costs of feasibility decisions, such as land use pre-planning studies. b)Organizational costs, which refers to the government's costs of maintaining organizational existence and engaging in industrial land property rights management, such as manpower costs of land administration departments. c) Supervision cost, refers to the cost of government supervision of urban industrial land projects, at present, mainly including the cost of ex ante supervision, China’s urban industrial land use is usually 50 years, during which there are many operational risks, the government tends to increase the ex ante conditions to reduce ex post risk, resulting in increased supervision costs. Secondly, as a rational person, the main body of the transaction has a strong incentive to change from not having a special relationship to having a special relationship, turning to "relationship investment" in order to squeeze into the relationship network of specialism, this "relationship investment" that is, the rent-seeking cost that enterprises need to pay. Finally, the social cost brought by the allocation of urban industrial land is also extremely high, this social cost mainly refers to the externality and extra cost brought by the allocation of industrial land, which contains a) social welfare loss, refers to the expenses and burdens brought by the government’s decision-making and behavior to the society, such as the reduction of arable land resources caused by the government’s over-expropriation of land. b)Government welfare loss, on the one hand, the irrationality of governmental decisions and governmental behaviors directly lead to social welfare loss, on the other hand, the government will inevitably take corresponding measures in order to reduce the loss of public welfare, thus increasing the public burden, both of which have a negative impact on the government’s credibility. c) Dissipation of the rental value of industrial land, such as idle industrial land and zombie enterprises.

2.2. High Transaction Costs Due to the Lack of Property Rights Flexibility

In the process of industrial land grant, many links have the problem of insufficient or even missing property rights elasticity, which is mainly manifested in the problem of insufficient elasticity of the land use right grant period [6]. At present, China's industrial land grant method is mostly based on the maximum grant period, from the point of view of the enterprise purchase, the land grant is a one-time payment of the corresponding number of years of rent required before obtaining the land use right. For enterprises with shorter lifespan, a one-time payment of 50 years of land premium according to the maximum number of years will undoubtedly raise the cost of land acquisition, increase the pressure on enterprises, and affect the speed of project landing. Not only that, the exact amount of the land premium has to be negotiated with the local government and the land acquisition unit, and determined according to the prevailing local land price. Behind this negotiation agreement hides a larger consultation and decision-making costs. Secondly, from the point of view of the enterprise concession. Industrial land is usually ceded for a period of 50 years, even the current highly respected flexible ceding policy is generally
ceded for a period of 10-20 years. According to the survey data of some scholars, Chinese small and medium-sized enterprises are only as short as 2.5 years, the average life span of private enterprises is almost 3.7 years, and the life span of large enterprises is 7-9 years, the life cycle of Chinese enterprises is far lower than the statutory maximum granting of industrial land for 50 years [18]. Thus, it is unscientific and unreasonable that the life cycle of a land grant clearly exceeds the life cycle of an enterprise. The frequent closure and shutdown of enterprises within the granting period raises the cost of acquiring land for new enterprises. And the government with preferential policies and invested a lot of manpower, material and financial resources to attract enterprises but can not ensure that in the land use period to the government to bring stable financial and tax revenues, this "breach of contract" so that the government invested in the search and signing the cost and so on wasted. In addition, the enterprise in the industrial land use right time frame of poor management can still own the land, increase the cost of land repurchase and the difficulty of land transfer, and buried the land inefficient use, idle and wasteful of the hidden danger. It is easy to cause zombie enterprise problems, and even lead to some land hoarding, land hoarding and other illegal behavior, which greatly increases the cost of government departments to monitor after the fact.

At the same time, the lack of flexibility of property rights is also reflected in the flexibility of land use. With the enhancement of industrial integration, the comprehensive use characteristics of urban construction land will continue to increase, and residential and commercial areas with only one function will gradually be replaced by places of comprehensive use [6]. The current property rights structure dominated by a single function can no longer meet the needs of industrial development.

All in all, this lack of flexibility will lead to the revitalization of the stock of land is much more difficult, which will lead to the situation that some of the new industries lack land space and some of the traditional and backward industries waste land space. This will greatly increase the cost of negotiation at the level of society as a whole.

2.3. Uncertainty in Trading Markets Significantly Increases Transaction Costs

According to Coase's theorem, when the transaction cost is zero, no matter how the property right is defined, the optimal market allocation can be achieved through market transactions [10], however, in the real world, the transaction process is almost always accompanied by direct or indirect transaction costs. In the process of industrial land transformation, the transaction costs brought about by the unsoundness of its market transaction structure profoundly affect the difficulty of industrial land transformation.

It is generally believed that buyers and sellers in the transaction, not only to face the uncertainty of the environment, but also to face the uncertainty of the transaction behavior, higher uncertainty means higher transaction costs [16]. Uncertainty in the process of industrial land transformation also mainly comes from these two aspects: first, uncertainty about the future market, that is, uncertainty under the influence of the economic environment; and second, uncertainty in the process of land use change, the land transaction market that helps industrial land transformation.

According to China's relevant laws, industrial land can be transferred through bidding, auction, listing, as well as by agreement. Unlike residential land, which is awarded to the highest bidder, acquiring industrial land requires the consent of the local government. Some industrial projects are time-sensitive, and from the perspective of business investment, the market situation is changing rapidly, and if you miss the best investment and development period, the project will lag or fall through the cracks. Enterprises can not always predict and grasp the market dynamics, so they want to seize every opportunity to produce and sell as soon as possible in order to obtain more profits. If land takes too long to be traded on the market, it increases the cost of contracting and agreements, which in turn reduces the willingness of companies to
invest and makes it difficult for projects to get off the ground. This inefficient approval not only leads to some major projects not being able to start construction in time, but also increases the transaction costs of the enterprises that take the land, and also increases the follow-up supervision and coordination costs of government departments.

In addition, in the trading market for land, the government will set the bidding conditions according to the specific conditions of the company, and then sell the land through public bidding, auction and listing. Of course, companies can also buy land through the secondary market, but the risk factor will be higher compared to the primary market because the complexity of the secondary land transaction is much higher than the primary market, and most of the risks are borne by the buyer. Moreover, the current secondary market for industrial land in China still suffers from the problem of lack of sufficient cultivation and control, and most regions have not set up a specialized secondary market, but rather conduct transactions directly through the real estate registration window [19]. As a result, the land rights holders need to spend a lot of time cost, search cost to determine the optimal market transaction object, etc. in order to complete the land transaction of the collection and assessment of these risks.

2.4. Transaction Costs Affect the Willingness of Land-use Rights Holders to Transform

Different from the government’s public welfare nature of the investment, the main purpose of companies to promote the transformation of industrial land is to pursue profits, they have strict requirements on the rate of return on investment, so the difficulties faced in promoting the process of transformation of the stock or inefficient industrial land also include the return on investment target on this point [20].

On the one hand, in the process of industrial land "bidding and auctioning", the transfer is the right to use the land, that is, within a certain period of time on a fixed range of production and business activities, and industrial land corresponding to the right of possession has not been clearly defined. Many industrial enterprises store land privately and leave it unused for a long time, which affects the efficiency of land output but maximizes the enterprises' own benefits. On the other hand, after the enterprise obtains the right to use the industrial land, the corresponding right to dispose of it and the right to transfer it are not clearly defined, and many industrial enterprises transfer the industrial land privately through the division of property rights in order to obtain excessive profits.

Taking one of the common ways of transforming industrial land - government buyback - as an example, buyback is the most popular with governments, but the least preferred option for companies. Typically, land compensation is calculated based on the current price compensation for industrial land, plus by mutual negotiation. And such buybacks are not always negotiated between the two parties to a transaction in one go, which means that companies often add many repetitive negotiation costs in order to facilitate such deals. In addition, from an operational point of view, the land resumption will mean the relocation of the enterprise, which for the original owner will terminate its production and the main business of production and operation, which will result in a large amount of shutdown losses and will pay for the disposal of used equipment, personnel relocation and financial expenses [20], while, at the same time, the reorganization of the enterprise will involve the reorganization of the supply chain, the recruitment of employees, the market environment, and the change of the marketing channels. Although the company will receive a land compensation after agreeing to the buyback, which includes compensation for land use rights, compensation for ground attachments, and compensation for relocation of the enterprise, in reality, the business risks faced by the enterprise before and after the relocation are exponentially increased. Whether it is the resettlement of workers before relocation or the restructuring of the supply chain after relocation, there are numerous details to be dealt with behind the scenes, and enterprises are
required to pay a variety of ex ante and ex post costs, such as contract negotiation, signing, and bargaining, and so on. This in turn increases the social cost of industrial land transformation step by step.

2.5. High Transaction Costs Due to Lack of Clarity of Policy Details

Coase (1994) argues that institutions emerge to reduce the costs of transactions and emphasizes the role of transaction costs on institutions, pointing out the importance of property rights. Transaction cost theory is an important tool for analyzing institutional structure, efficiency and change [21]. The lack of clarity of policy details inadvertently amplifies transaction costs, and the increase in such transaction costs is mainly manifested in the increase in ex ante transaction costs caused by the land rights holders' assessment of the future direction in the short term, as well as the increase in ex post costs caused by the unknown details of the relevant policies.

On the one hand, it is the increase in the search cost of determining the best transaction object. Due to the overlapping nature of China’s existing industrial land transformation policies, enterprises are faced with decision-making difficulties in dealing with the transformation of their industrial land holdings. Currently, the issues of volume ratio enhancement, volume ratio incentives, and building height enhancement in the transformation of industrial land have been mentioned throughout the country, but in general they are not clear. For the right holders of industrial land, choosing the optimal policy path among many policy documents requires many ex-ante costs including search costs. In addition, the implementation time of many policies is too short, and there is uncertainty about the future policy direction; some companies may choose to abandon the project outright for fear of going out of business.

On the other hand, the lack of subsequent operational rules increases the uncertainty of ex post conversion costs. Item The current land use right transfer system, including the flexible transfer system, does not provide clear regulations on the handling of industrial land use rights after their expiration [22]. However, after the expiration of the land grant period, the renewal of land use rights is a major concern for enterprises that are still conducting normal production and operations. However, they do not find any feasible rules from these policy documents to guide their development, which makes them unable to accurately predict the benefits of land changes, thus affecting their willingness to transform.

3. Reflections on Certain Countermeasures for the Transformation of Industrial Land

3.1. Optimize the Structure of Property Rights Transactions and Reduce the Transaction Costs of the Property Rights Allocation System

Adhering to the needs of enterprises, and taking into account the specific conditions of their production, operation and land requirements, long-term leasing should be vigorously developed, and industrial land should be supplied on an experimental basis in the form of leasing and then granting, combining leasing and granting, and granting land on a flexible term basis. The core of the policy of flexible land grants lies in shortening the term of land grants, lowering the costs before and after land transactions, and improving the efficiency of land utilization. The implementation of flexible industrial land grant can not only strengthen the government’s dynamic control of enterprises, but also effectively establish a mechanism for correcting errors in investment, and can effectively curb the phenomenon of enterprises maliciously "hoarding", changing the use of private, high rental prices [23].

There are four approaches to this. Firstly, the development of government storage and repurchase. That is, through government repurchase, the industrial land will be re-listed in the "auction" a renewal mode, the property right relationship has changed, the nature of the land
may appear "industrial to industrial" or "industrial to research" different changes. Second, land cooperative development. Second, cooperative land development. The original land use right holder cooperates with other development and operation entities to carry out "industrial to industrial" renewal or "industrial to research" renewal. If it involves the change of land use nature, it needs to be approved by the relevant departments, to re-sign the land grant contract and to pay the land grant premiums; if it involves the change of property right relationship, it needs to be handled in accordance with the mode of transferring enterprise property rights as a whole or divided. Third, enterprise self-adjustment function. The enterprise self-adjustment function applies to industrial land that needs to be dismantled and rebuilt because it does not comply with industrial development policies or the latest urban and rural planning. On the basis of not changing the subject of rights and the land use period, and retaining the main structure of the buildings on the original land, such land can be adjusted in terms of function, from industrial to R&D or commercial office. In terms of the operation process, it is necessary for the original land right holder to take the initiative to apply, be approved by the relevant departments, re-sign the land grant contract, and pay the land grant premium. Fourth, enterprise land development on its own. Without changing the nature of the original industrial land, housing ownership, land acquisition or approval, the use of the building function to change to R & D creative functions. The validity period of the change of use function is 5a, and after the expiration of the validity period, the nature of the land shall be changed by way of agreement and transfer, and the land premium shall be paid.

3.2. Strengthen the Construction of the Trading Platform and Reduce the Transaction Costs Caused by Information Asymmetry

From the level of urban industrial land use rights transactions, the current secondary land market in China urgently needs to be resolved is its operation is not standardized, lack of vitality. Therefore, it is necessary to strengthen the market service function, so that the market can better play the allocation function in the property rights transaction. It is possible to build a unified trading platform, exploring the construction of a unified urban and rural land market trading platform on the basis of existing land trading institutions or platforms [6]. Expand channels for aggregating information related to the secondary land market. Through these channels, both buyers and sellers can release and obtain land transfer information on this platform, thus effectively reducing the degree of information asymmetry between supply and demand.

In terms of specific policies, the first is to accelerate the transformation of government service functions and enhance government service capacity. To build a unified trading platform and reduce the degree of information asymmetry between supply and demand, localities are exploring the establishment of unified urban and rural land market trading platforms on the basis of existing land trading institutions or platforms of municipal and county natural resources authorities; to optimize governmental service mechanisms and simplify land trading processes, including the use of "one-stop" services to improve the level of service, and to strengthen the process. For key projects, the idea of "first registering for partial land use rights - implementing process evaluation - and then obtaining full land use rights" can be appropriately adopted, and process supervision can be strengthened to improve access speed.

Secondly, we should guide the transaction in a roundabout way to refine the division of labor and develop the service outsourcing market. Most of the industrial land is distributed in industrial parks, and local governments can actively introduce land transaction intermediary organizations into the parks to give play to the clustering effect and regulate the intermediary
services in the land transaction market. For intermediary enterprises “in the park”, explore the implementation of multi-party incentives in the form of official cooperation and policy preferences, and provide economic incentives to intermediary enterprises with good growth and development potential through preferential policies such as preferential sites and preferential taxes.

3.3. Improve the Supervision of the Transaction Market and Help the Land Market to Develop in an Orderly Manner

The government's regular intervention will bring certain administrative costs, so the relevant departments in the development of the secondary land market should be limited intervention. In order to promote the healthy development of the secondary land market, it is necessary to establish a review mechanism for the transfer of property rights, which should fulfill both the government's functions and the supervision of the market order. For example, at the time of transfer, relevant government departments should strengthen the review of legality and compliance, as well as the strict review of the conditions of the transferee [24]. Simplifying the land transaction process by optimizing the government service mechanism can effectively reduce all transaction costs for the government and enterprises.

In terms of specific measures: First, improve the legal system of the secondary market for industrial land and strengthen the effective connection between the primary and secondary markets. On the one hand, it is necessary from the perspective of the supreme law, unified industrial land transaction standards, clear transaction scope, standardize the transaction behavior, and refine the transaction rules; on the other hand, pay attention to the transfer of the secondary market on the continuation of the primary market, and can explore the implementation of the land transaction forensics system. Second, improve the coordination mechanism of multiple subjects and strengthen departmental communication. Need to rationalize the relationship between the land, housing management and planning agencies, industrial land secondary market transactions usually contain land resources and buildings on the ground, land, housing management, planning agencies docking helps to enhance the transparency of information on the subject of the transaction; to strengthen the docking of the judiciary and natural resources departments, the judicial disposal of industrial land is a common behavior of the secondary market, the judicial disposition should be prompted to reach an agreement between the two departments, to avoid disputes or inefficient industrial land transfer to the primary market, can explore the implementation of land transaction forensics system. To avoid disputes or inefficient allocation of industrial land; to strengthen the cooperation between intermediary service organizations and natural resources management departments; to take the financial services sector as an example, establish an information sharing mechanism between the financial management department of the bank and the real estate registration department, to dynamically track and control the status of the subject matter of the mortgage. Third, lowering the transaction threshold and increasing the activity of market transactions. On the one hand, to raise the cost of ownership and lower the cost of circulation, mainly relying on the tax and fee adjustment mechanism, explore the establishment of a land tax and fee structure that "emphasizes ownership and lightens circulation"; on the other hand, to lower the threshold of investment, guide market transactions, and explore the relaxation of the rule that "land use rights with an investment ratio of less than 25% of total investment cannot be transferred". On the other hand, lower the investment threshold, guide market transactions, and explore the relaxation of the restriction that "land use rights cannot be transferred if the investment ratio does not reach 25% of the total investment amount", so as to promote the circulation of industrial land.
4. Conclusion

In view of the above analysis, it can be found that the more traditional incremental space is controlled by the government for land supply, and the relationship of interests is relatively simple; incremental land can basically be led by the government in a top-down process. Nowadays, the right to use the stock of land in the stock planning is more decentralized, mostly in the hands of various users, and the power relationship, the number of years of granting, and the transaction costs are more complicated, so it is difficult for the government to dispose of a whole block of land at will, and it is necessary to take into account the interests of all parties in the gain or loss of land renewal and re-development. The high transaction cost of industrial land transformation greatly affects the efficiency of industrial land use change and transfer. Therefore, it is necessary to pay attention to how to reduce the transaction costs in the process of transformation, and in this way to enhance the enthusiasm of enterprises to participate in the transformation of industrial land, so as to gradually release the corresponding land resources, so that the enterprises in a more economical way, and the land rights holders to jointly promote the development of high-quality transformation of industrial land. From the perspective of transaction costs, this paper briefly analyzes the problems existing in the process of industrial land transformation, and puts forward a number of suggestions, hoping that the future land transformation work is more efficient and sustainable to provide certain assistance.

References


