

## Unauthorized Use Change and Control System of China's Industrial Buildings: Taking S District of Chongqing as an Example

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Received 15 January 2014-; accepted 30 March 2014  
Published online 20 April 2014

### Abstract

This paper uses both theoretical research and empirical research in analyzing the changing scale and characteristics of spatial-temporal variations of the unauthorized change of the use of the industrial buildings in Chongqing's S District. Through the in-depth exploration of the driving factors and mechanism of China's unauthorized change of the use of the industrial buildings, this paper finally builds scientific and reasonable use change control mechanism for industrial buildings. It has been found through the empirical study that unauthorized use change causes great loss of state-owned land resources and serious impact on commercial real estate and leads to very baneful social consequences. Use change of industrial buildings includes five driving factors: economy, structure of land supply, laws, industry development and system. To avoid such use changes, we must improve the existing laws and regulations and vitalize the industrial building resources; optimize both land supply structure and the spatial arrangement of industrial buildings; explore to develop supervisory control system based on the building certification process and principle of rent-to-grant; construct multi-sector linked supervision system for the use change of industrial buildings; effectively use economic levers to

squeeze the profit brought about by the use change of industrial buildings; and know clearly about the industry direction and settled businesses.

**Key words:** Industrial buildings; Unauthorized use change; Driving factor; Control mechanism

Li, T., Liao, H. P., Zhuang, W, Sun, H., & Li, C. (2014). Unauthorized Use Change and Control System of China's Industrial Buildings: Taking S District of Chongqing as an Example. *Canadian Social Science*, 10(4), 130-135. Available from: <http://www.cscanada.net/index.php/css/article/view/4475> DOI: <http://dx.doi.org/10.3968/4475>

### INTRODUCTION

Industrialization has played a significant role in the promotion of China's urbanization. Most of China's big cities at this stage are built on the basis of the rapid development of industry. Nevertheless, the development of China's industrialization process and the updating and upgrading of the industrial structure has been resulted in the soaring of traditional production costs in urban central areas. The factories, hard to survive, had to make changes on after another, and the new industry came into being. Industrial buildings are the basic carrier of urban industrial development for it is required by the new-type urbanization and the industrialization development and emerged at the right moment and can save and make intensive use of land resources. However, there are many problems in the unauthorized use change of the industrial buildings in practice. Therefore, the status quo and the driving factors of the unauthorized use changes of industrial buildings in the research areas have practical significance for us to reasonably solve the problem brought about by the unauthorized use change of industrial buildings.

## 1. DEFINITION

### 1.1 Industrial Building

Industrial buildings refer to the buildings, structures and their attachments built on the industrial lands used for industrial production (including research and development), designed to provide high-quality production development environment for small medium industrial enterprises which are mainly engaged in production design, technological development and processing & manufacturing. China's industrial buildings were firstly constructed in the year 1999 in the city of Shanghai. By the end of 2012, the number of Shanghai's built-up urban industrial parks grew up to 219. China has its urban industrial buildings better developed in cities as Tianjin, Guangzhou, Wuhan, Dalian, Ningbo, Hangzhou, Chengdu, etc. Practice shows that the development and construction of industrial buildings is essential to the prevention of urban industry hollowness, optimization and improvement of urban industry, as well as the promotion of new-type urbanization and industrialization. Rational development and construction of industrial buildings, and support and encouragement of the development of the building industry are beneficial to the upgrading of regional industrial structure, promotion of industrial layout and achievement of the consolidation and efficient use of urban lands, and can solve the problem of land use difficulty of SMEs and the employment difficulty of the public. However, some problems occur during the exploration and practice in the development of industrial buildings. Dead zones are also found in the management of the industrial building lands, which are the responsibilities of the government and land resource departments.

### 1.2 Land-Use Change Control

Control, aiming at promoting the good run of economy, is a system adopted by the state with coercive power to replace market competition through government intervention. Land use changes control, a law system that restricts the land use changes, is to promote the rational and sustainable use of land resource. It has a great significance to the social security and economic development. Land use change, a direct manifestation of the dynamic changes in land uses, refers to the process of changing one land use into another. Land uses control, first seen in Germany and the United States in the late 19th century, is a land management system adopted by the countries to guarantee the rational uses of land resources. China had its land use control system started in the late 1990s. In the *Land Management Law* promulgated in 1998, China's land use zoning control system was established, of which the fourth Provision clearly rules that, "the state implements land use control system." Land use change control system is a core component of land use control system.

## 2. GENERAL SITUATION OF THE RESEARCH AREA

Chongqing's S District was founded in December 2000. By the end of 2013, the urban population reached 3.765 thousand and the urbanization rate reached 100.00%. The proportion of the three main industries was 0.1:71.5:28.4. The tertiary industry increased 2.1 percentage points in the economic aggregate. The S District, an important urban function expansion district of Chongqing, is an open economy demonstration area inland and a service industry centralizing zone of high-tech industrial R & D and modern services.

According to the urban planning, the S District has 3,176 hectares of residential land, accounting for 34.50% of the total land area; 1,685 hectares of means of transportation, accounting for 18.31% of the total land area; 1,506 hectares of industrial land, accounting for 16.36% of the total land area; 985 hectares of green land, accounted for 10.70% of the total land area; 853 hectares of commercial services facilities, accounting for only 9.27% of the total land area. Nevertheless, analysis shows that the industrial land supply for the S District has reached 1,682.42 hectares, accounting for 35.80% of the total area of land supply.

## 3. THE STATUS QUO OF UNAUTHORIZED USE CHANGE OF INDUSTRIAL BUILDINGS IN THE RESEARCH AREA

### 3.1 The Unauthorized Use Changes of Industrial Buildings Are Fabulous in Number

According to the planning, the construction amount in the research area will reach 10,000,000 m<sup>2</sup> in all in the future. At the present, over 3,100,000 m<sup>2</sup> of industrial buildings with different function orientation has been completed, including 2,400,000 m<sup>2</sup> of completed industrial buildings that are put into use, and 700,000 m<sup>2</sup> of buildings are inviting investment. Over 2,500,000 m<sup>2</sup> of uncompleted industrial buildings are still under construction.

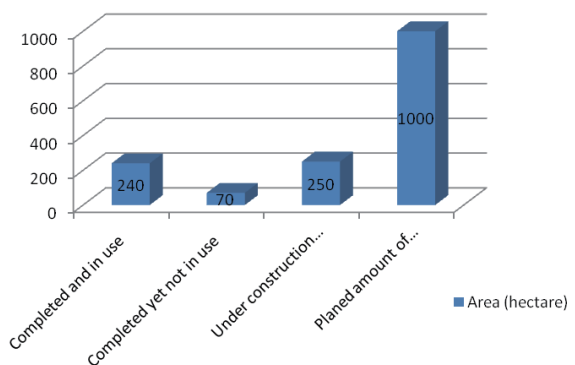
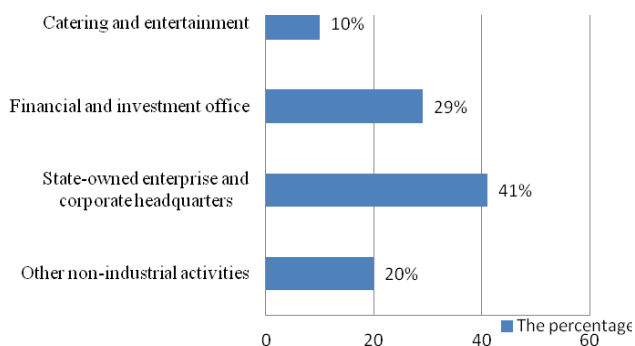


Figure 1  
Planning and Construction of Industrial Buildings in Research Area

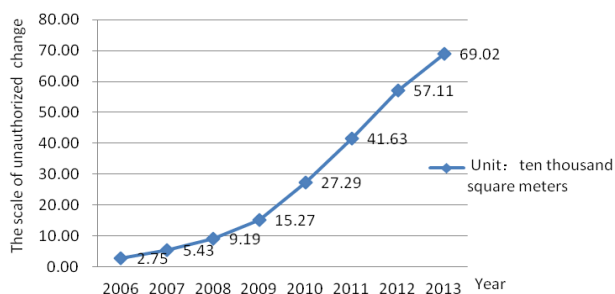
The research area came into use as industrial buildings when completed. The area of unauthorized changed is 690,200 m<sup>2</sup>, accounting for 22.26% of the completed industrial buildings and 28.75% of those coming into services. Among these buildings, 69,500 m<sup>2</sup> is put into businesses as catering, hotel and entertainment; 202,400 m<sup>2</sup> is used for financial and investment office activities; 280,300 m<sup>2</sup> is used as office areas for large state-owned enterprise and corporate headquarters; 138000 m<sup>2</sup> is operated by other industries and enterprises.



**Figure 2**  
Use of Industrial Buildings With Changed Use

### 3.2 Temporal Evolution Characteristics of Unauthorized Use Change of Industrial Buildings: The Scale of Unauthorized Use Change of Industrial Buildings Increases Year by Year

Industrial buildings with unauthorized changed use grew with time and the growth rate increased continually (figure 3). Survey indicated that in 2006, there were only 27,500 m<sup>2</sup> of industrial buildings with unauthorized changed use. By the end of 2013, the number had increased to 690,200 m<sup>2</sup>—24 times higher than 8 years ago.



**Figure 3**  
The Annual Changing Scale of Industrial Buildings

### 3.3 Spatial Evolution Characteristics of Unauthorized Use Change of Industrial Buildings: The Distribution of Unauthorized Use Change of Industrial Buildings Is Concentrated

The industrial buildings with changed use are mainly located on the Renhe Street and Dazhulin Street in the district. It is in the western and southern direction of Muzhaoshan Forest Park. The ecological environment is

good. Since it is on the transition of Chongqing's urban core function area and urban function expansion area, the economic development level is high, and the land resources are in urgent shortage.

By analyzing the urban planning and the land supply data of the research area, it can be found that if no effective actions are taken in supervision, in the future, the newly increased use-changed industrial buildings in the research area will be mainly concentrated on Dazhulin Street and Lijia Street.

### 3.4 Big Profit of Unauthorized Use Change of Industrial Buildings

According to the survey, during 2001-2011, the average land granting price of the industrial land in the research area was 440,000 yuan per mu, and the average development cost was 240 yuan per square meter; the average land granting price of the commercial buildings was 3.08 million yuan per mu (the current price reaches up to 5 million yuan per mu), and the average development cost was 1,800 yuan per square meter (the current price reaches up to 5,000 yuan per square meter). The land granting price and development cost of the commercial buildings were about 7 times higher than the industrial buildings. Yet the sale price or rental price of the industrial buildings were not very different from or even higher than the commercial buildings.

## 4. MAJOR ISSUES OF UNAUTHORIZED USE CHANGE OF INDUSTRIAL BUILDINGS

### 4.1 Nonstandard Settled Business in Industrial Buildings

In present China, the settled businesses into the industrial buildings are unclear. There are no lists of settled businesses into the industrial buildings and the qualification examination process is missing, which leads to the chaos of enterprises when settling in industrial building.

### 4.2 Causing the Great Loss of State-Owned Land Resources

To save the land acquisition costs in commonweal projects, as well as to improve people's living standards, optimize the industrial structure and promote industrial development, industrial lands are usually sold at low price through government allocation. Commercial service lands, in contrast, must go through the procedures for the grant under market conditions. These lands are for value and grant fees must be paid to the government. Some land users acquire lands in the name of industrial buildings, but then change the land use and put the land into commercial services to make profits. Survey shows that there are in all 75 projects of unauthorized use change of industrial buildings, occupying 46.43 hectares of state-owned lands. Compared with the price of commercial lands in the same year, this will result in a direct land assets loss of up to 504 million yuan. The above suspected projects of unauthorized use

change of industrial buildings under construction can cause a land assets loss of 360 million yuan.

### 4.3 Severe Impact on Commercial Real Estate Market

The total area of buildings with unauthorizedly changed use in the research area reaches 690,200 m<sup>2</sup>, and the sales income reaches up to 6.531 billion yuan. These buildings are used for catering, hotel and other commercial activities or are sold or rented as business office buildings. During this period, 53,936 commercial buildings in the research area were sold, bringing about 31.601 billion yuan of sales income. The total amount reached 4,941,200 m<sup>2</sup>. No matter from the angle of sales volume or sales income, the buildings with unauthorizedly changed use have held 15% of the commercial land market.

Besides, compared with commercial buildings, industrial buildings development has significant competitive advantages. First, the development yield is high, as the land acquisition cost of industrial building is only 10% -50% of the commercial lands, whereas the rental or sale price is not significantly different; second, industrial buildings enjoy a lot of preferential policies and are mostly developed by state-owned enterprises. In order to promote industry development, the government releases preferential policies in land acquisition and construction for the developer of industrial buildings

### 4.4 Causing Very Baneful Social Impact

First, the unauthorized changing of industrial building use disrupts the normal land management and market order. In the environment of gradual standardization of land management and the continuous improvement of laws and regulations, the unauthorized changing of industrial building use can seriously interfere with the existing regulations and land market order.

Second, many administrative departments and state-owned enterprises are involved in the illegal cases, bringing serious damage to the country's image and credibility of the government, and easily providing space and chance for power corruption. According to the survey analysis, 88.3% of the public expressed wills against the unauthorized changing of industrial building use; 70.5% of the public the main cause of the above phenomenon is the weak law enforcement; 40.2% of the public even believe that government agencies and state-owned enterprises are free from laws and deliberately break the law.

Finally, it can lead to new illegal use changes. Since effective regulatory measures and legal basis have not been found yet, people who conducted the existing use changes are not subject to sanctions, more land users as a result are following the way. In the next few years, 7,000,000 m<sup>2</sup> of industrial buildings in the research area will come into construction or be completed, and 600,000 m<sup>2</sup> has been already rented or sold as completed industrial buildings. If there is still no timely supervision, such use changes will "blowout". According to the present changing scale

and proportion, it is estimated that at least 1,900,000 m<sup>2</sup> of industrial buildings will have the use changed in the future.

## 5. ANALYSIS ON DRIVING FACTORS OF THE USE CHANGE OF INDUSTRIAL BUILDINGS

### 5.1 Economic Driving Factors

Economy is one of the most fundamental driving factors that industrial buildings have these unauthorized use changes, and the necessary precondition of the developers to choose among different land uses and change them. Under market economy, various means and factors of production always flow to and gather in high-yield sectors as land utilization. In land utilization, since there is difference of land use efficiency and driven by interests in the process of land utilization, land uses are always transformed into the high economically efficient ways. According to the survey, the research area, located in Chongqing's urban function core area, is seeing the rapid growth in the economy and the constant upgrading and optimization of industry structure. Numerous enterprises shows strong will to settle in, and the land supply is in shortage while the land value rises. Compared with commercial service facilities, industrial lands have significantly lower prices. However, the sales prices of some use-changed industrial buildings are close to or even exceed the prices of the commercial buildings in the same area. Normally, the price proportion of commercial housing sales price and land acquisition cost is 3.0 to 3.5. But after the use change occurs to an industrial building, the proportion usually reaches up to 10.0 or even more, indicating that high profit has directly led to the unauthorized changing of industrial buildings.

### 5.2 Land Supply Structure Driving Factors

Survey shows the industrial land supply of the research area in 2001-2010 is as high as 1,682.42 hectares, accounting for 35.8% of the total area of land supply, while the commercial service land supply accounts for only 10% of the total area of land supply. As a result, land uses have to be turned from industrial uses to commercial service uses, and one use takes the position of the other. Therefore, unreasonable land supply structure is another root cause of the unauthorized use change of industrial buildings.

### 5.3 Laws Driving Factors

Legal defect in urban land use change is the immanent cause of the unauthorized use change of industrial buildings. If the unreasonable land supply structure and high profit are the root causes of the will of unauthorized use change of industrial buildings, the imperfection of related laws and regulation has offered the practical operation space for such a will and idea. Though China has implemented the most strict use control system in land use, the close restraints are

mainly shown in the use conversion between construction and agricultural lands but hardly in the conversion between the specific uses of urban lands, and the definition of the type and structure of the businesses that are allowed to settle into the industrial buildings is not clear.

#### **5.4 Industrial Development Driving Factors**

From angle of the spatial distribution of the use-changed industrial buildings, it is found that the concentrated distribution area of such buildings and the concentrated distribution area of industrial buildings overlap. They are mostly located in the transition zone between Chongqing's urban function core area and urban function expansion area. At this stage, the regional policy of this area is to strive to develop a financial and business services center while actively make progress in high-tech industries. Nevertheless, industrial lands, as the major dispositions at present for this area, cannot match with its main function. The unauthorized use change of industrial buildings is to some extent an objective trend under the market effect.

#### **5.5 System Driving Factors**

The current administrative and tax system is the more important reason for the frequent unauthorized use changes of industrial buildings. Government departments blame each other, and effective multi-sectoral linkage regulatory mechanism is in absence and departments fail to achieve effective cooperation. In the research area, this issue is charged by the land resource office alone, and the information mainly comes from reports from the masses. Therefore, problems cannot be timely detected and rapidly governed. Once the use change becomes a fact, it will cost much more manpower and material resources to rectify and reform. Since the independent interest body of local government has been further strengthened by Chinese tax system and the large taxes with stable growth is collected by the central government, and the local government of the research area has to find new sources of revenue. Besides, the government is also responsible for the improvement of local economy and people's life quality. Therefore, the local government is forced to seek maximize revenue. In consideration of taxes, output, employment and other factors, industrial lands are mostly granted through agreements, which increases the likelihood of unauthorized use changes of industrial buildings.

## **6. CONSTRUCTION OF THE CONTROL SYSTEM OF UNAUTHORIZED USE CHANGE OF INDUSTRIAL BUILDINGS**

### **6.1 Improve Existing Laws and Regulation & Promote the Divided and Standardized Management of Industrial Buildings**

Some policies and measures currently in effect on industrial buildings resources are still limited to the local

level as documents and departmental regulations only. The binding is not strong and the policy implementation effect is poor. Therefore, local rules and regulations on land management should be refined to increase the legal binding and punishment strength, including definitude of the meaning of unauthorized use change of industrial buildings; making clear of the settled businesses into the industrial buildings; improve the procedures of unauthorized use change of industrial buildings; build liability system that severely punishes the unauthorized use change of industrial buildings ; improve the supervisory system on unauthorized use change of industrial buildings.

### **6.2 Optimize Land Supply Structure and Spatial Arrangement of Industrial Buildings**

Optimize the land supply structure of the research area, rationally reduce the proportion of industrial land and properly increase commercial service land and residential land. According to the survey, the industrial land supply of the research area in 2001-2010 was as high as 1,682.42 hectares, accounting for 35.8% of the total area of land supply. It has been proved by the survey on other selected Chinese cities and developed foreign areas that are similar in urban function expansion areas, industrial structure, development orientation and historical background, it is reasonable if the industrial supply allocation is kept at 10% to 15%.

Regional industry-oriented directly influence the development direction of industrial buildings. Meanwhile, the development of industrial buildings enhances industrial competitiveness of the urban industry cluster district. Guided by the industrial strategy and urban planning, an advanced regional industrial building development plan should be made. At present, industrial buildings in the research area with changed use are mainly distributed at the buffering zone between Chongqing's urban function core area and urban function expansion area, the key area of the business and financial center. The unauthorized use change of industrial buildings is to some extent in line with the natural law of development and the basic principles of economy and geography. Therefore, in the future, the industrial land allocation of this area should be reduced.

### **6.3 Explore to Develop a Supervisory System Based on the Industrial Building Certification Process and Principle of Rent-to-Grant**

According to the experience of China's Guangdong, Tianjin and the other cities, certification of industrial buildings and rent-to-grant policy can be supportive to each other and operated together. With the rent-to-grant principle, land users must construct and manage the industrial buildings strictly in accordance with the supplementary terms of the land transfer contract, while land management can still have the initiative of land supervision and disposal when the industrial land supply

is allocated. Industrial buildings certification can be taken as the important proof and prerequisite of industrial land's transfer from being rented to transferred. The rent-to-grant policy of industrial land can be taken as the fundamental driving force of land user's active participating in the certification of industrial buildings.

#### **6.4 Construct Multi-Sector Linked Supervision System for the Use Change of Industrial Buildings**

Unauthorized use change of industrial buildings, a complicated phenomenon caused by various reasons and related to multiple aspects in society management, involves the interests of government, developers, public, land-using enterprises and others. Supervision and regulation of unauthorized use change of industrial buildings is not the responsibility of a department alone, nor can it be solved by a department alone. Thus, a multi-sectoral linkage operation mechanism led by the regional government must be established. All sector must clarify their duties and improve the department performance in accordance with regulation.

#### **6.5 Effectively Use Economic Levers to Squeeze the Profit Brought About by the Use Change of Industrial Buildings**

First, to the land assignees that make unauthorized land use change without permission, land transfer fees and liquidated damages must be asked for from the land assignees to guarantee the state interests. In the institutional arrangements of the land transfer fees, punitive measures are required to force the land users to obey the rules and prevent land use changes, so that the income loss can be prevented and the transaction costs can be reduced.

Second, the dynamic regulation function of tax mechanism should be given full play to. Land value increment tax is for units and individuals that gains profits from transferring land use right, above-ground structures and their attachments based on the appreciation in the process of transferring. Value increment tax must be strictly performed when the use of industrial buildings is unauthorizely changed, the land ownership changes or when the land market transactions occurs, so that the state-owned land assets loss can be avoided.

Last, industrial buildings can be sold at limited prices. In this way, on the one hand, the profited can be reduced to diminish the owner unite of changing use; on the other hand, the costs of industrial enterprises can be reduced to improve the industry development. The base price shall be set by land resource department, who will also be responsible for the supervision and management of housing prices. The base price of housing includes development cost, tax and profit. Development cost shall be set by the land resource department according to the facts; tax shall be calculated in accordance with

the taxable item and tax rate; profit shall be calculated at most 80% of the average profit margin of the commercial housing development project in the same area.

## **CONCLUSION**

The construction of industrial buildings is beneficial of the upgrading the level of the regional industry and promote the intensive use of land resources, so as to optimize the allocation of resources. However, the unauthorized use change of industrial buildings can lead to the great loss of state-owned land assets and serious impact on the commercial real estate market, and cause a very bad social impact. This research analyzes the driving factors of the unauthorized use change of industrial buildings and tries to build a control mechanism to solve the existing problems, so that effective control of the use change of industrial buildings can be achieved.

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