

Research on Financial Support for Industrial Heritage Protection and Innovative Utilization

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Abstract: The protection project of industrial heritage in China has begun to take shape, and some urban industrial historical scenes have been reserved and utilized by innovation. Industrial heritage has the characteristics of public welfare, large initial investment, and slow recovery of funds. Protection is only one aspect for the industrial heritage, and it's more important to use the financial means to ensure its own innovation. At present, the innovative utilization and financial support of industrial heritage have not yet formed a systematic solution, and the shortage of funds is still one of the important obstacles restricting the protection of industrial heritage. In this context, this paper analyzes the status quo of industrial heritage protection in China from the perspective of financial support, and compares four financing modes and specific cases in combination with government support mode, market mode, PPP mode and pure social capital mode. Based on the analysis results, this paper puts forward the policy suggestions of finding the "three balance points", that is, finding the balance point between the protection of industrial heritage and innovative utilization, finding the balance point between government funds and market funds, and finding the balance point between economic value and cultural value. The establishment of ecological chain could provide financial support for the protection of industrial heritage in China.

1. Introduction

The modern industrial development in China has gone through different historical stages. With the continuous transformation of economic structure, manufacturing industry has been transforming into service industry, gradually losing its original function and initial value, leaving many precious industrial heritage. The industrial heritage not only include the unique architectural features of the times, but also contain unique cultural values and historical inheritance. Industrial heritage is an important part of urban culture and urban memory. Consequently, the protection of industrial heritage has high cultural and artistic value. In addition, industrial heritage fully carries the information of the times of Chinese industrialization. Protecting industrial heritage is an inevitable requirement for all provinces and cities in China to build cultural cities with temperatures. In recent years, people have gradually changed the way of dismantling and rebuilding industrial heritage, and made innovative use of the cultural and commercial values of industrial heritage. The protection of industrial heritage depends on the policy and financial support of government departments, which is determined by the public welfare characteristics of industrial heritage. However, in terms of innovation and utilization, the performance of enterprise funds will be far better than that of government funds. Therefore, we should inject living water of enterprise and social funds into industrial heritage projects, give full play to the subjective initiative of market capital and use reasonable financial methods, so as to protect the cultural value of heritage, and at the same time, glow the new energy of old heritage.

2. Literature Review

2.1 Study on the Protection Model of Industrial Heritage.

Zhang Jingcheng (2008) in his article "International Experience of Industrial Heritage

Development Model" put forward five development models of industrial heritage: theme museum, public recreation space, creative industry park, industrial exposition and business tourism development and comprehensive development model [1]. Qiu Yongzhe (2017) compares the post-industrial landscape protection cases of Qijiang Park and Ruhr District, Germany, and summarizes the development methods of landscape parks for industrial heritage protection [2]. Xu Cedar, Lin Xiling and others (2018) proposed to protect the industrial heritage based on the Qingdao Museum-type industrial heritage protection model, in order to find its historical, cultural, artistic and social values of non-renewable city "memory". Zhan Yihong (2018) used the experience of British industrial heritage development to propose that the funds for industrial heritage protection come from local government investment and donations from relevant organizations. At the same time, after the project is officially operated, it will bring certain operating income and service income [3].

2.2 Research on Financial Support Model of Industrial Heritage.

Financial support is an indispensable driving force for industrial development and economic growth. Research by Rajan and Zingales (1998) shows that there is a positive relationship between the level of financial development and industrial growth [4]. Liu Shijin (1996) is a domestic scholar who paid attention to financial and industrial issues earlier. He pointed out that financial innovation and transformation should promote industrial upgrading[5]. Other domestic scholars (Zhou Li(2004), Zhang Yuxi(2005)) have deeply analyzed the financial support system in Chinese industrial policy, and studied the role of financial development in economic growth [6] [7].

The publication of *The Development of Cultural Industry Calls for the Support of Financial Industry* (Zhang Aijun(1999)) has aroused the attention of domestic academic circles to the financial support in the development of cultural industry [8]. In recent years, more domestic scholars have studied the financial support of China's cultural industry. Zhou Kai and Gaowei (2017) made an empirical analysis based on panel data of 13 districts and municipalities in Jiangsu Province from 2013 to 2015. The research shows that local public cultural expenditure and bank credit funds have a positive impact on the transformation and development of cultural industry [9].

3. Current Situation and Problems of Industrial Heritage Protection in China

China's industrial heritage protection has begun to take shape. Some cities' industrial historic features have been preserved and innovated to a certain extent. However, the rapid transformation has made many industrial heritage disappear in the process of continuous urban renewal. At present, there are still a lot of heritage protection work to be further promoted. Relevant management organizations have gradually attached importance to the protection of industrial heritage and launched a series of protection policies. Before 2006, the protection of industrial heritage in China was basically in a barren stage. In May 2006, the Notice on Strengthening the Protection of Industrial Heritage issued by the State Administration of Cultural Relics was a watershed from scratch for the protection of industrial heritage in China. As a result, the research on Industrial Heritage in China began gradually. Until January 2018, the Chinese Association of Science and Technology issued the first list of protection of industrial heritage in China. In November 2018, the Ministry of Information also improved the industrial heritage identification system and promulgated the Interim Measures for the Administration of National Industrial Heritage, which marks that the protection of industrial heritage in China is on the right track. As can be seen from the table below, the protection of industrial heritage in China is becoming more standardized. However, at the present stage, there are still many shortcomings in the protection of industrial heritage in China, which need to be improved and broken through urgently, especially in financial support.

Table 1 Policies to Support Industrial Heritage Protection

The policy release time	Documents and meetings	Core content
June 2001	The Fifth National Key Cultural Relics Protection Units	Modern Industrial Heritage first appeared in the list of national key cultural relics protection
April 2006	The First Forum on the Protection of China's Industrial Heritage	Taking the protection of industrial heritage as an important part of the protection of cultural heritage, fully recognizing the importance and urgency of carrying out the protection of industrial heritage
May 2006	Notice on Strengthening the Protection of Industrial Heritage	The research and protection of industrial heritage has been officially launched, so that the protection of industrial heritage in China can start from scratch.
May 2006	The Sixth National Key Cultural Relics Protection Units	Among the 4296 protected units on the list, there are more than 80 industrial heritage sites.
January 2018	List of the First Industrial Heritage Protection	For the first time, a list of 156 key construction projects has been issued for the protection of industrial heritage.

3.1 Financing Difficulties and Lack of Effective Policy Support.

Firstly, the protection of industrial heritage lacks special financial support from the government. In the process of protection and innovative utilization of industrial heritage, the original cultural relics and buildings should be repaired and maintained, which means that a large amount of financial support is needed in the early stage. However, there are fewer cities in China with special funds and policies, and local governments lack the basis for protecting industrial heritage. Secondly, the attraction of social capital is insufficient. Existing industrial heritage protection cases are mainly government-led and investment, lack of access to social funds, and lack of systematic financial support methods to provide theoretical support, which makes industrial heritage protection unable to scale up, and can not form a linkage effect. Therefore, preferential policies and incentives can be set up for industrial heritage protection projects, such as public bidding or public-private joint venture system. When enterprises and individuals intending to maintain and improve industrial heritage put forward relevant requirements, preferential loan interest rates and optimization of approval procedures can also be given. A certain proportion of tax credits can also be set for repairing expenses to encourage enterprises to maintain and construct, etc. to attract the intervention of social capital.

3.2 The Limited Development Model of Industrial Heritage, and the non-guaranteed Development Income

Although there are many cases of industrial heritage protection and reuse in China, it is found in the literature review that creative park is a common transformation mode of industrial heritage [10]. This model is relatively simple to operate, retains the outer landscape of industrial heritage buildings, updates the interior and transforms it into offices, restaurants, business centers, etc. But it also has many disadvantages. Some Creative Parks violate the essence of protection and do not adequately protect and interpret their original cultural meanings. At the same time, there are also service groups and general businesses. The problem of overlapping hearts, industry and function positioning is not clear. Some parks have high popularity, but there are many tourists and few purchasers. They can't combine the economic value of industrial heritage with commercial value effectively, so they are in a dilemma. The main reason for the simplicity of protection and utilization mode is the large policy barriers and the lack of clear protection documents for industrial

heritage. Moreover, the follow-up development returns are not high, the maintenance technology of buildings is difficult and demanding, and the input and output are not proportional. Therefore, some industrial heritages are facing the predicament of no one to exploit and are in an idle state.

3.3 Lack of High-Level Industrial Heritage and Weak Development Capacity.

At present, China's existing industrial heritage protection cases, there is no industrial heritage included in the World Heritage List, while Japan has three successful industrial heritage applications in eight years [10]. This does not mean that the quality of China's industrial heritage is poor, but that China's industrial heritage protection capacity and development level is still weak. In addition to value reconstruction, the development of industrial heritage is more important to preserve the recognition of the inheritance by the citizens and tourists. Therefore, in the development of industrial heritage, the task of development can not be completely entrusted to the government or the market. The government should actively guide and set up corresponding development and protection measures and policy support for different types of industrial heritage, stipulating that while transforming industrial heritage, the historical attribute and value of industrial heritage should be preserved and propagated to a certain extent. For example, although Shanghai's more famous No. 8 Bridge Creative Park retains its original appearance, it has not been laid out and protected for the relevant history of Shanghai Automotive Brake Factory. As a result, the history of the industrial heritage is unknown. Although commercialization is successful, it also goes against the original intention of industrial heritage protection.

4. Financial Support Model for Industrial Heritage Protection and Innovative Utilization: A Theoretical Analysis

4.1 Government Support Model.

In 2009, the State Council promulgated the Cultural Industry Revitalization Plan, which regulated the financial support in the industry. On January 27, 2018, the "List of China's Industrial Heritage Protection" conference was held in Beijing. At the conference, the Institute of Innovation Strategy of the Chinese Association of Science and Technology and the Chinese Urban Society jointly issued the "List of China's Industrial Heritage Protection (the first batch)", which covers shipbuilding, military industry, railway and other categories. Although the protection of industrial heritage started late in China, the relevant state departments attach great importance to the protection of industrial heritage.

Government financial support is unavailable in the early stage of industrial heritage protection. Now some local governments have set up special funds for the protection of industrial heritage and incorporated them into the budget to meet the financial needs for the protection and utilization of industrial heritage. Special funds can be divided into three methods: pre-investment subsidy, post-reward and financial special funds support (direct allocation). The pre-investment subsidy covers three aspects: setting the lower price limit, granting export subsidies and subsidizing consumers.

4.2 Market Model.

In addition to the government's own mode of financial investment, the financial support for industrial heritage protection and innovative use includes direct financing and indirect financing. Direct financing, i.e. equity financing, refers to an enterprise's IPO, which raises funds through listing, allotment and increase of shares. Indirect financing, namely debt financing, refers to obtaining funds through loans, bonds, venture capital, private equity funds and financial leases of banks and non-bank financial institutions.

In the indirect financing mode, banks adopt different loan modes according to different situations by establishing a special credit declaration system. When the industrial heritage develops into a tourist attraction, the bank can pledge the ticket income of the scenic spot and grant loans to the industrial heritage scenic spot. For enterprises with long recovery period of accounts in industrial

heritage projects, banks can pledge the accounts receivable of enterprises and handle factoring business for them; for enterprises with stable income in industrial heritage projects, banks can use bank credit as guarantee, sell relevant financial products to the society, and help enterprises raise the required funds. In addition, some tourism enterprises have strong periodicity and seasonality, so banks can provide flexible loan business to save financial costs.

4.3 Public-Private Partnership.

In order to deepen the structural reform of cultural supply side and innovate the cultural supply mechanism, China has begun to attach importance to guiding social capital to actively participate in cultural PPP projects in recent years.

PPP model, namely the cooperation model between government and social capital, is widely used in the field of public services in China. According to the participatory degree of social capital from small to large, PPP model can be divided into three categories: purchasing services, franchising and equity cooperation. Firstly, purchasing services means that the government fully undertakes project investment, and social capital is responsible for one or several functions, such as construction, maintenance and facility escrow, only through entrusted operation and management contract. Secondly, franchising is the most common PPP mode at present. The Government authorizes by competition and defines rights, obligations and risk sharing through agreements. Third, equity cooperation refers to the transfer of shares of some state-owned companies to the private sector and the establishment of a long-term "cooperation" relationship between the public and private sectors through the public welfare constraints stipulated in the contract.

5. Financial Support Model for Industrial Heritage Protection and Innovative Utilization: Four Cases

According to the above analysis of financing mode, we select four typical cases of industrial heritage protection, using government support mode, market mode, PPP mode and pure social capital mode to support the protection and innovation of industrial heritage.

5.1 Qijiang Park in Zhongshan: Government-funded Construction.

Qijiang Park in Zhongshan City is a typical case of industrial heritage protection funded by the government. As a government department, the Planning Bureau of Zhongshan City, Guangdong Province, renovated and renovated the site of the famous Yuezhong Shipyard in Zhongshan City in 2011. The shipyard is a symbol of Zhongshan's industrial development. It began in the early 1950s and witnessed the industrialization process of New China. The renovation of the industrial heritage will be funded by the government in full, and the original site will be transformed into a landscape park which integrates industrial heritage protection, leisure and recreation and ecological park. The park has become a favorable guarantee for raising the surrounding land price and housing price. In the cultural aspect, the park bears the historical and cultural heritage of Zhongshan City, enriching its urban heritage and becoming a tourist attraction.

The case of industrial heritage renovation adopts the mode of government's full investment, which has great financial pressure on the government, and generally applies to the protection of representative industrial heritage which has great impact on the local area, while the renovation projects funded by the government in full are often more suitable for public welfare projects with the nature of parks and museums.

5.2 Shanghai Shipyard-Enterprise: Cooperative Investment Construction.

Shanghai Shipyard has a glorious history of more than 150 years. Its predecessors are British-British Shipyard and China Merchants Bureau Machinery Shipyard. After the founding of New China, it was incorporated into Shanghai Shipyard. Nowadays, the width and depth of Huangpu River can no longer meet the needs of modern shipbuilding industry. Shanghai Shipyard relocated, and the last large and high-quality land in Lujiazui was transformed into Lujiazui Binjiang Financial City. From big ships to busy financial elites, Shanghai witnessed the historical

changes and the transformation of China's manufacturing industry to service industry.

In the renovation project of Shanghai Shipyard, the new Binjiang Financial City has integrated functions of housing, art, office and commerce. While maximizing economic benefits, the historical culture of Shanghai Shipyard has been preserved as far as possible. On the one hand, part of the industrial heritage is preserved, such as the famous "platform", which used to be a small water track of 10,000 tons of ships, has now been transformed into a broad walkway for white-collar workers and citizens, which corresponds to the former factory buildings and workshops will also be transformed into exhibition space for cultural and artistic entertainment. On the other hand, it is a continuation of the past. For example, the new buildings show the industrial history of the area in detail. For example, the new Pujiang Shuanghui Tower, the shape of the twin towers is similar to the hull, the elevator buttons adopt the rudder shape, and the emergency door is designed into the shape of the through-hatch door. Shanghai Shipyard has not disappeared because of the demolition and relocation, and the culture of the shipyard has been carefully preserved. Come down and present it in another form that is more acceptable to people.

5.3 The Transformation Project of Shanghai Xintiandi: Public-Private Partnership Mode.

Shanghai Xintiandi renovation project is a typical case in the field of urban renewal. It is also a case worthy of reference and reference in the industrial heritage reconstruction project. The project is located in the Taiping Bridge area of Shanghai City, with many old Shanghai Shikumen architecture, which has operated many foreign pubs, dining halls and so on, and is also an important residential area. The district government has fully consulted with the enterprises responsible for renewal and transformation, and developed commercial projects on the premise that the enterprises guarantee the construction of historical and cultural protected areas first. The main difficulty is to maintain the balance between the original Shikumen architecture and the innovation and development. In urban renewal and development, huge cost is the primary problem. Through cooperation with private enterprises, the government not only transfers the high development and protection costs to enterprises, but also obtains financial revenue through the transfer of land use rights. Through cooperation with enterprises, the government fully mobilizes market funds to participate in the initiative, but at the same time, to a certain extent, it also effectively protects cultural heritage such as historical buildings.

The project of Xintiandi is exactly like the PPP mode, that is, the cooperation between the Luwan District government and Hongkong Ruian group and a state-owned background enterprise. State owned enterprises account for only a small part of the investment project. In this mode, the government can cooperate and communicate with the main developers in an all-round way, thus participating in the whole project. On the other hand, the enterprises have gained confidence and strong support because of the government's participation in funds and the inclination of policies.

5.4 Tieqiaoxia Museum Group in Britain: Pure Social Capital Model.

The Iron Bridge Canyon was built in 1779, the birthplace of the Industrial Revolution. It was the first iron bridge in the world. It shared 384 tons of iron, which accounted for one third of Britain's annual production at that time and cost 7,000 pounds, equivalent to 1.7 million pounds today. In the 1970s, industrial heritage such as abandoned factories, workshops and so on were renovated in the canyon area. Now it has become the central building of the George Bridge Museum Group. While recording the process of industrialization in Britain, it has also led to the economic rebirth of the canyon area. Tieqiao Canyon was successfully included as a world cultural heritage in 1986. The particularity of Tieqiao Canyon Museum lies in that it is the first world cultural heritage with the theme of industrial heritage and has become a classic case of industrial heritage transformation.

In this case, the most special one is the management organization and operation mode of the museum, which is managed by a charitable organization. The organization is called the Tieqiao Canyon Museum Trust Fund. By renovating the industrial heritage into museums, ticket revenue was obtained and related industrial derivatives were developed. At the same time, the organization also has some funds from the support of the United Kingdom and the European Union, as well as donations from all sectors of society. In this case, the government departments did not participate

too much in the protection of industrial heritage, but spontaneously transformed and protected the industrial heritage by social capital, and successfully found a suitable business plan. Through a certain degree of operation and profit, the industrial heritage has been effectively protected, which is a successful transformation case with the participation of pure social capital.

6. Financial Support Ideas and Countermeasures for Promoting the Protection and Innovative Utilization of China's Industrial Heritage

6.1 Finding the Balance Point between Protection and Innovative Utilization.

Industrial heritage protection receives financial support from all parties, which requires innovative forms of industrial heritage development as attraction. These new forms of development not only play a role of social propaganda, but also attract all parties to the capital flow into the industrial heritage repair and maintenance projects. But at the same time of innovation and development, we should adopt appropriate operation mode to find the balance point between industrial heritage protection and innovation and utilization. For example, the combination of large-scale industrial heritage and space art can be developed into memorable art galleries and exhibitions. One example is the "Shanghai Urban Space Art Season 2017" held by Shanghai Minsheng Art Wharf, which not only retains the internal and external structure of 80,000 tons granary, but also designs new elements such as "cloud ladder" on the original basis.

6.2 Finding the Balance Point between Cultural Effect and Economic Effect.

Industrial heritage protection and innovative utilization are also the combination of cultural and economic effects. We should not only excavate the economic value of industrial heritage and transform it, but also ensure a certain proportion of the original heritage. This is the goal and core of industrial heritage protection and innovative utilization, and also an unavoidable problem in our practice. For example, Shanghai Shipyard, situated at the intersection of Yincheng Road and Pudong Southeast Road, has unique geographical advantages. It was developed into Lujiazui Binjiang Financial City in 2005 in response to the needs of Shanghai's urban development. At the same time, the imprint of industrial history was replaced by commercial functional areas. In this regard, we suggest opening "cultural window" and "cultural exhibition hall" to preserve some cultural relics of the original site, so as to find the balance between cultural and economic effects.

6.3 Finding the Balance Point between Market and Government.

Industrial heritage protection can not always rely solely on government financial support, but should also broaden the financing channels and adopt a diversified financial support model combining government, market and society. In the protection of industrial heritage, government funds are indispensable. In the innovative utilization of industrial heritage, we should find a balance between market-oriented and government intervention, and give full play to the role of the market. Secondly, the government can determine the direction of financing for the protection and utilization of industrial heritage from the perspectives of local cultural popularization, industrial heritage scale and the progress of industrial heritage protection. If the industrial heritage is located in a place with dense talents, good cultural industry foundation and high enthusiasm for social capital, the government should appropriately increase the ratio of social capital entry so as to reduce financial expenditure.

6.4 Establishing a Complete Industrial Ecological Chain.

Combining with the theory of industrial life cycle, we can establish a complete industrial ecological chain of industrial heritage, that is, start-up period, repair period, development period and derivative period, and adopt different financing methods in four stages.

The start-up period of industrial heritage protection, also known as the seed period, is the period when the government determines the development objectives, formulates plans, prepares funds and obtains public recognition. After that, in the repair period, we can adopt PPP mode. The government should actively improve the overall financing environment in all regions. For example, the

government should speed up the establishment of investment funds for industrial heritage PPP projects, local government guidance funds should standardize participation in industrial heritage PPP projects, and local government financing guarantee agencies should provide credit enhancement services for small and medium-sized enterprises of industrial heritage PPP projects, so as to encourage more financial institutions to increase their investment in industrial heritage PPP projects. At the same time, the government should strengthen the cooperation between ministries and banks, guide banks and other financial institutions to strengthen financing services according to the financial demand characteristics of industrial heritage PPP projects through green financing channels and appropriate interest subsidies, so as to improve the degree of docking between industrial heritage protection and financial capital.

In the development period of innovation and utilization, the industry has grown stronger, the market-oriented operation of funds is stable, and the government funds are gradually withdrawn. At the same time, the market funds are further increased to give full play to the economic value of industrial heritage. Finally, in the derivative period, industrial heritage will be combined with art finance to form a variety of cultural and artistic derivatives, which can not only enhance the original cultural value of industrial heritage, meet the growing cultural and artistic needs of people, but also realize the circulation of investment and financing through the art derivatives market.

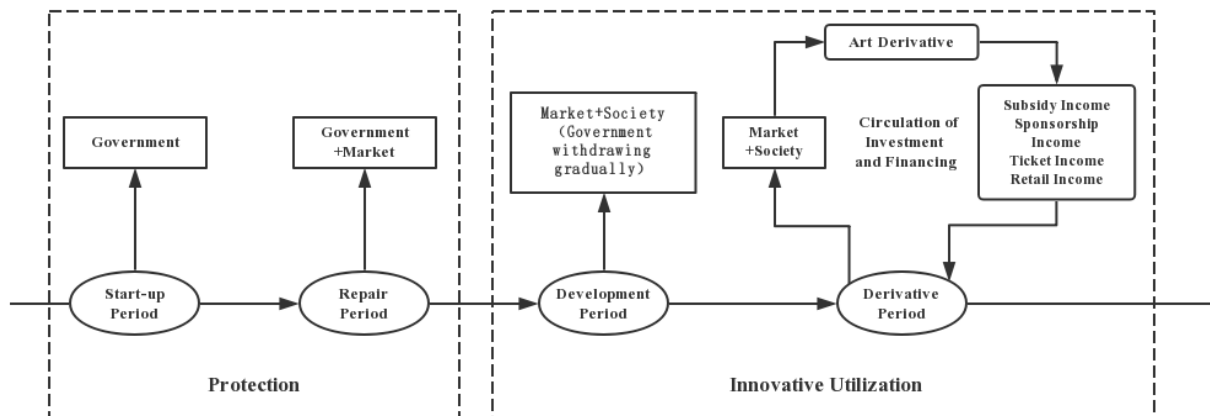


Fig. 1 Industrial Chain and Financial Support Model of Industrial Heritage

Industrial heritage is our wealth, and the protection of industrial heritage is closely related to each of us. In the future, the protection of industrial heritage will gradually become market-oriented, enter our lives, and become an important carrier of social responsibility and cultural self-confidence. Effective financial support system will provide an important impetus for the protection and innovation of industrial heritage.

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