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**A MODEL APPROACH FOR CONSERVATION OF
HISTORIC BLOCKS TO ADDRESS PROPERTY RIGHTS
AND FINANCING ISSUES OF HISTORIC CITIES IN
CHINA**

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PhD

The Hong Kong Polytechnic University

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Department of Building and Real Estate

**A Model Approach for Conservation of Historic Blocks to
Address Property Rights and Financing Issues of Historic
Cities in China**

GUO Nan

**A thesis submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy
January 2021**

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Abstract

Rapid developments in urbanisation are often accompanied by land shortages. Because of insufficient awareness of heritage conservation, a large number of historical buildings in densely populated countries and regions have been demolished to meet the needs of continued development. This practice is particularly evident in many cities in the early stages of economic development, such as those in the rapidly developing region of East Asia. In 1976, the UNESCO World Heritage Committee (WHC) established the World Heritage List to stimulate the public's awareness of the need to protect their historical heritage. After nearly 50 years of effort, heritage conservation has become a well-established field. However, many problems in practice cannot be ignored.

Activities geared toward urban renewal face two major problems, namely, uncertain property rights and shortage of funds. Unclear property rights results in great confusion as to who is responsible for managing and maintaining historical buildings. Excessive use has brought about serious harm to historical buildings, hindered their protection and adaptive reuse and even led to violence during the resettlement process, causing social instability. Insufficient funding renders the proper protection of historical buildings impossible, and overuse or excessive commercialisation makes the buildings unbearable. This paper analyses and discusses the protection and/or renovation models of historical buildings with different property rights using the Coase theorem as a theoretical support to determine the corresponding financing methods. In addition, the

factors influencing the governance model of historical buildings are considered from four dimensions (i.e. social, economic, environmental and institutional) using sustainable development theory as a theoretical framework. In this research, 63 historical heritage sites in the Pingjiang Historic Block are selected as research objects, and the governance model was verified and optimised through on-site field investigation and expert argumentation. At the practical level, the aim of this research is to provide a reasonable and feasible transformation scheme for the same type of heritage conservation. At the theoretical level, the discussion of the Coase Theorem based on case studies reveals that the participation and supervision of the state can ensure the smooth progress of large-scale projects. The conclusion of this work describes the extension of the Coase Theorem to other cases. Solving the heritage conservation problem from the perspective of sustainable development theory expands the applications of this theoretical framework to different domains and provides guidance for future research. The results of this research fill an important gap in the field of heritage conservation and urban renewal.

Publications arising from the thesis

Guo, N., Chan, E. H. W., & Yung, E. H. K. (2020). Alternative Governance Model for Historical Building Conservation in China: From Property Rights Perspective. *Sustainability*, 13(1), 1-1.

Guo, N., & Chan, E. H. W. (2018). A Framework for the Analysis of Embodied Carbon and Construction Cost of Heritage Conservation Projects. Research Monograph for GRF grant project B-Q42P.

Guo, N., Ji, W.Y., Yung, E. H. K., Qian, Q. K., & Chan, E. H. W. (2019). Carbon-emission Considerations in Built Heritage Conservation to Address the Climate Change. The International Council for Research and Innovation in Building and Construction (CIB) World Building Congress 2019 – Constructing Smart Cities, Hong Kong, 17-21 June, 2019.

Guo, N., & Wang S.Q. (2018). Analysis on the feasibility of hotel model applied to the renovation of historical buildings —comparison of the adaptive reuse projects in Suzhou and Hong Kong. (Chinese version). Annual National Planning Conference 2018, Hangzhou, China, 24-26 November, 2018.

Guo, N., Chan, E. H. W., & Yung, E. H. K. (2017). A Framework towards Low-carbon Heritage Conservation of Hong Kong: with Analysis of Embodied Carbon. World Sustainable Built Environment Conference 2017 Hong Kong, Hong Kong, 5-7 June, 2017.

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Abbreviations

EICR European Institute of Cultural Routes

ICOMOS The International Council on Monuments and Sites

WHC UNESCO World Heritage Committee

Chapter 1 Introduction

1.1 Research Background

Following rapid urbanisation and tremendous developments in society, economy, culture and other relevant fields worldwide, renovations of old cities were undertaken with unparalleled speed and scale. These projects swiftly removed and reconstructed old cities, resulting in a modern city appearance and substantial improvements to the living quality of residents. Unfortunately, many historical and cultural heritage sites within old cities were also destroyed during this renovation wave (Ruan, 1993).

The problems recorded by previous researchers essentially reflect conflicts between personal and social interests and between partial and overall interest in the cities. Conflicts amongst different social groups were also noted on account of the imbalance of interest reallocation during the revitalisation and renovation of old cities.

Under this background, all levels of government adopted a series of interventions. City renovations were initially accompanied by complex interventions and a series of system reforms and policy regulations under the guidance of the government. Instead of solving the existing challenges, however, these developments created new issues that intensified and caused greater problems, including soaring housing prices in old cities, difficult housing situations for local residents, polarisation of the rich and poor and low work efficiency in the relevant government agencies at the time of renovation. The literature and results of field surveys reveal that property rights (relocation) (Chan & Hou, 2015) and capital (Shao, 2012) are frequent problems encountered during the

protection and utilisation of architectural heritage. The maintenance and upgrade of historical buildings requires massive financial and technical resources the government may be unable to provide. In such cases, the government may maintain an attitude of “existence, not ownership” (Zhou et al., 2007) and seek to transfer usage or property rights to willing social forces who can cooperatively revitalise and reuse historical buildings, thereby extending their heritage. Given insufficient awareness of the need to protect historical buildings and the common shortage of urban land, historical buildings are often demolished in densely populated countries and regions, particularly in fast-growing East Asian nations, to meet various development needs. This practice is especially pervasive in many cities that are in the initial stages of economic development. For example, after the second World War, Japan’s large-scale urbanisation development resulted in the arbitrary destruction and demolition of many ancient buildings (Kobayashi, 2015). In the 1950s, much of the ancient walls of Beijing were demolished. At the beginning of 21st century, Lee Tung Street in Hong Kong was demolished and rebuilt by the government as a pedestrian shopping street without any distinctive local style (Qian & Yin, 2018). The continuous growth of modern cities is gradually compressing the space of historical buildings. Unfortunately, as historical buildings are demolished, a city’s key features and its people’s sense of cultural identity also gradually disappear. Historical buildings in many cities are threatened by basic issues, such as rapid urbanisation, increased housing demands and socio-cultural and climate changes (Udeaja et al., 2020; Ren, 2011). From the perspective of sustainable development theory, the adaptive reuse of historical buildings is not only a means to

promote heritage conservation but also an urban strategy that can simultaneously contribute to environmental protection and generate new economic, cultural and social value (Della, 2020; De Medici et al., 2019).

Over the years, world heritage sites have been destroyed by natural and social causes. To protect world cultural heritage, UNESCO passed the ‘Convention Concerning the Protection of the World Cultural and Natural Heritage’ in 1972. In 1976, the UNESCO World Heritage Committee (WHC) and World Heritage List were established to implement the ‘Convention’. After nearly 50 years of application and protection, 1,121 properties have been included in the list. Among the countries listed, China ranks at the top with 55 heritage sites. This large number of heritage sites generates considerable challenges in protection work, from protection funds to demand for professionals. Most of the heritage sites in the World Heritage List are linear cultural belts or settlements. In 1987, the Council of Europe proposed the concept of Cultural Routes. Meanwhile, UNESCO proposed the concept of heritage routes and highlighted exchanges and dialogues between countries or regions with the same heritage. In recent years, with the integration of economic and cultural exchanges, an increasing number of heritage routes appeared in the public view. Academic research expands heritage ‘points’ to ‘lines’ and to ‘planes’. In 2014, Silk Roads: The Routes Network of Chang’an-Tianshan Corridor and the Grand Canal were officially listed as World Heritage Sites, thereby gradually bringing to the fore the protection of historic relics along the route. In contrast to monomer historic buildings, heritage routes are large in terms of land area or heritage sites and involve complex property rights, financing demands that are difficult to solve

and increasing protection difficulties.

Recent increases in the number of successful adaptive reuse projects have given the government confidence in its ability to undertake such activities and led policy makers to apply the same methods to protect historical buildings and blocks (Hsing, 2010). However, the obstacles brought about by unknown ownership and property rights seriously hinder the construction of smart and sustainable urban development. Specifically, unclear property rights can neither deter the destruction of important historical buildings nor effectively protect existing ones (Bao, 2013). On the one hand, the government must spend large sums of money for repairs. On the other hand, the excessive use of historically valuable buildings with existing conditions may devastate numerous households. The government has encouraged the public to participate in adaptive reuse projects, which is an important measure for achieving sustainable urban development (Ruan et al., 2014), but unclear property rights, which is a legacy of the transition from state-ownership property in China, bars the transformation of these buildings by interested developers. Incidents such as chaotic demolitions and violence against these demolitions have occurred owing to mistrust among the government, residents and developers (The Guardian, 2019). Residents who do not cooperate in demolitions waste time and increase the cost of reconstruction projects (Nashua Telegraph, 1978; Bowen, 1975). Property rights issues impede the renovation of old buildings and prohibit successful sustainable urban development. These problems are particularly obvious in developing countries such as China, which has transformed from a centrally planned economy to a market-based one. Older buildings with rich historical

and artistic value have become a burden to the urbanisation of a city.

The above issues represent the core focus of this thesis. Based on the Coase theorem, this paper discusses the relationship between property rights and financing methods through the framework of sustainable development theory; considers the factors influencing the renovation model of historical buildings from the social, economic, environmental, and institutional aspects; and establishes a feasible governance model. This thesis selects Pingjiang Historic Block as the research object and analyses the causes of complex property structures and their impact on the protection and renovation of historical buildings as observed through on-site field investigations. Findings obtained through expert interviews and analyses of practical cases involving the research object are evaluated to verify and optimise the proposed governance model.

1.2 Aim and Objectives

The aim of this research is to determine the relationship between property rights and financing in heritage conservation project. The purposes of this effort is for maintaining the traditional value of historic buildings in modern times and raising awareness on historical cultural heritage and its preservation. To achieve this aim, the specific objectives are derived as follows:

To determine the current situation of property rights in historic buildings and identify the reason that caused such state;

To investigate the financing mode and the method for raising funds for heritage

conservation in historic quarters;

To Verify whether Coase theory applicable to the problem of heritage conservation in China;

To identify the patterns of financing modes for heritage conservation in relation to property rights.

1.3 Research Questions

The overarching research question is:

What is the relationship between the model of property rights, financing and adaptive reuse method in heritage conservation projects?

The research sub-questions are:

A. How has property rights of historical buildings changed from 1949–2017 in China?

B. What is the useful mode for adaptive reuse or urban renewal of historical buildings?

C. What method can be used to achieve sustainable development in the conservation of historical districts?

D. How does Coase Theorem affect the solution of the problem of property rights in the field of heritage conservation in China?

1.4 Significance of the Research Question

Cities are organic structures that feature constant changes. As the deposits of culture

and civilisation, cities are the fruits of production and intelligence from the past. Thus, people should maintain and effectively manage the 'relations and dynamic functions' in historic cities, which are the living heritage where people dwell. Lynch (1960) said: 'Management and effective utilization of changes to historic relics for current and future demands are always better than a sterilized respect for the sacred past.' In fact, changes in physical appearance are inevitable in historic towns and cities. An unchangeable environment will lead to self-destruction. Society prefers a world based on profound history and welcome to improvements, in which people can trace the past as well as create their own path. Protection, conservation, renovation and restructuring of historic buildings and blocks require good judgment between conflicting needs. Tension between urgent renovation (necessary changes) and protection (preventing changes) always arises; hence, the two priorities should be coordinated. Historic cities, which are shared by all, will bring economic benefits, cultural resources for education and entertainment value. Thus, society should view historic cities as development resources, and thereby effectively manage and sustainably protect and utilise them. The existence and continuity of urban historic landscape and cultural fabrics are indispensable to the improvement of people's living environments; hence, we should not neglect the social significance of urban conservation.

There are 138 Famous National Historical and Cultural Cities, 312 Famous Chinese Historical and Cultural Towns, 487 Famous Chinese Historical and Cultural Villages and 6819 Traditional Chinese Villages in China. Heritage conservation in China has always been restricted by the shortage of funds and issues in property rights.

Surprisingly, a large amount of private funds are available for historic sites, but these funds are not given enough attention. If not properly allocated, this amount of funds is likely to be a destructive force. However, if properly allocated, the funds can be a driving force for heritage conservation. The current research attempts to determine the relationship between property rights, financing method and other relevant factors. If it proves that Coase Theorem is applicable to the problem of Chinese heritage conservation and even form inferences, there will be another supporting theoretical basis in this field, which will provide ideas for the current thorny problems and broaden the ways to solve such social problems. Research on the process of urban renewal will enrich the research on heritage conservation projects in China.

1.5 Overview of Research Design

This research applies a combination of qualitative and quantitative methods to collect and process data in different stages of the research. It involves the following research methods such as literature review, site investigation, face-to-face interview, Analytic Hierarchy Process, and case study. The overall research approach and the interrelationship of each of the research methods and components are depicted in Figure 1.

This model based on sound theories, successfully solved the primary problem of adaptive reuse projects and provided solutions for other old building renovation projects with disordered property rights, so that the property rights problem was no



longer an obstacle to sustainable urban development but could be explored to provide drive force. An increasing number of vacant and dilapidated old buildings have been given new life, which is conducive to sustainable urban development from social and environmental perspectives. While reducing the impact of buildings on climate change, at the same time, the social and artistic value of buildings has also been extended.

1.6 Structure of the Thesis

The thesis includes eight chapters, as shown in Figure 2. The following sections are the brief summary of each chapter.

Chapter 1 introduces the current situation of heritage conservation in China. It provides an overview of this thesis. It demonstrates the research background, aim and objectives of this study, research questions, significance, an overview of the thesis's research design, and structure.

Chapter 2 states the theoretical background of this study area. All the theories are addressed in this part. The research framework is established based on Coase Theorem and Historic Urban Landscape which can test the validity of the governance model in this thesis.

Chapter 3 reviews the concepts of old city renovation and heritage conservation in existing studies. Property rights and financing issues are two problems which difficult to overcome during this project. The research gaps can be filled in this study, and this research's theoretical perspectives are presented.

Chapter 4 Based on the existing methodologies for this research area, a combination of qualitative and quantitative methods is adopted in the study. It introduces the research design. Through site investigation, a large amount of first-hand materials have been obtained. By Analytic Hierarchy Process, the main factors which affect the adapt reuse of historic buildings are found.

Chapter 5 shows the results of the site investigation and Analytic Hierarchy Process. After data analysis, the results elaborate the changes of historic buildings, which successfully explain the relationship between property rights and financing issues. Besides, it shows the main factors that can determine the financing method.

Chapter 6 adopts the study results to the case in Pingjiang Historic Blocks. The adaptive reuse case contains two types of property rights. After the renovation project, the issue has gained profits in practice. Through the complex case, the governance model is tested and refined.

Chapter 7 discusses the results from different aspects, such as Coase Theorem and Historic Urban Landscape. The governance model is proposed based on the previous analytical results and verified by expert interviews.

Chapter 8 presents this study's conclusion and highlights the findings that show an overall view of this study. It states the theoretical and practical contributions, limitations, and recommendations for future research.

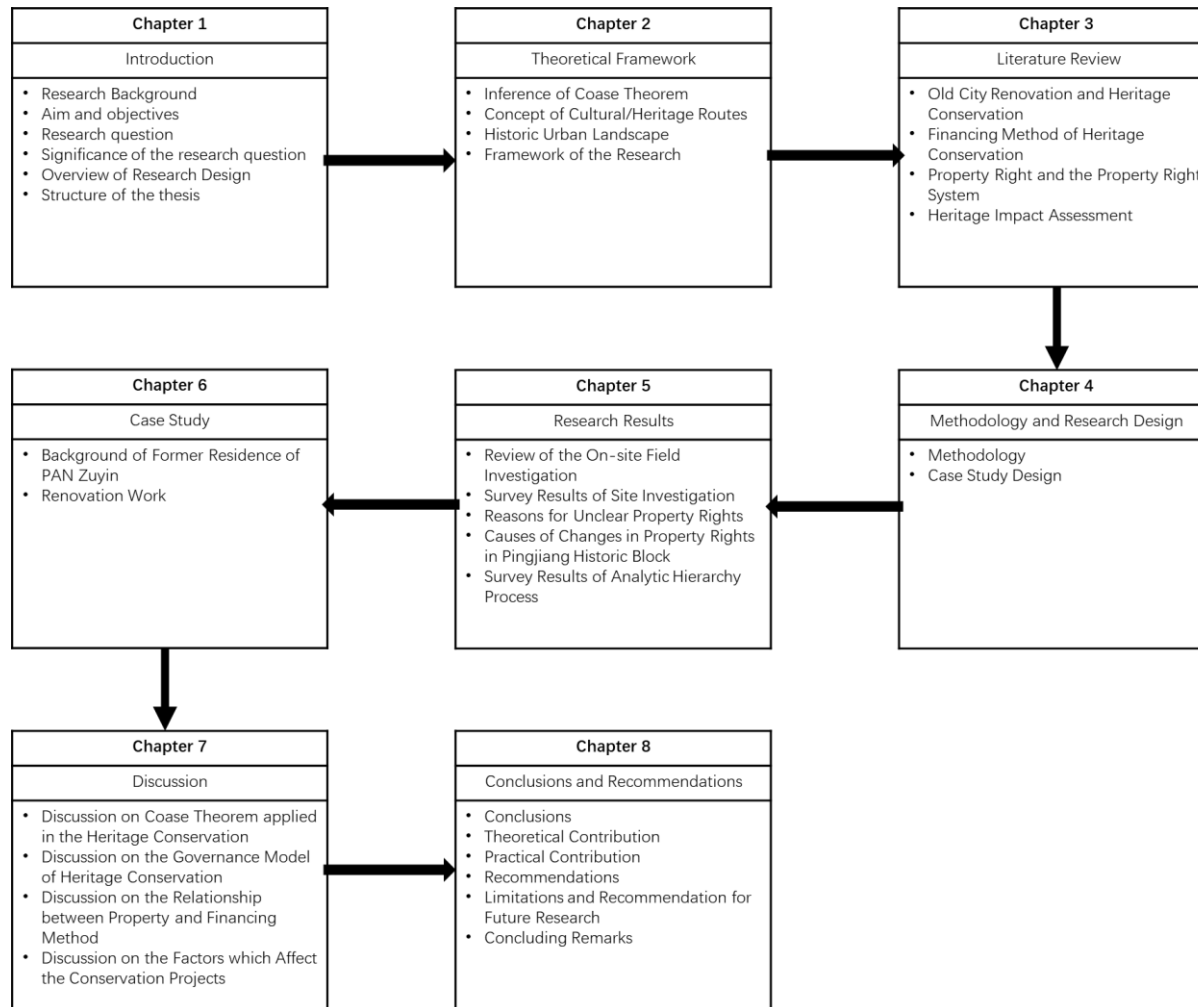


Figure 2 Structure of the thesis

Chapter 2 Theoretical Framework

2.1 Inference of Coase Theorem

Property rights refer to the behavioural relationships of people resulting from the existence of objects and their use. Property rights are rights unified by government enforcement and market forces. The property rights system refers to the systemised property rights relationships and system support for dividing, determining, defining, protecting, and exercising one's property rights (Durlauf & Blume, 2008). The property rights system can be further divided into formal rules, including laws, regulations, social contracts, the construction and determination of organisations, and informal rules, including cultural traditions, habits, conventions, moral rules, and so on (Coase, 1988; Klein & Robinson, 2011).

Property rights include ownership, power of possession, right of control, and right of use. Coase holds a view in *The Problem of Social Cost*, which won the Nobel Prize, that the initial delimitation of legal rights affects the efficiency of an economic system (Coase, 1960). If property rights are not explicitly defined, then individuals cannot have reasonable expectations whilst making transactions with others, and society will lose benefits generated by labour division and cooperation. Additionally, opportunistic behaviours, such as encroachment on the rights and interests of others, will emerge, and social disruption will be inevitable. Similarly, when individual property rights cannot be protected by society, individuals cannot make long-term economic plans and

arrangements and thus lose incentive to accumulate and protect resources. Furthermore, negative drawbacks include the act of wasting and destroying resources (De Medici et al., 2019). If we want to optimally allocate resources, we need to consider the damaging impact caused by two parties whilst determining their actions (Coase, 1960).

The Coase Theorem shows the decisive effect of property rights on transaction costs (Coase, 1960). The key points summarised by Chappelow (2020) as:

- Under the right conditions parties to a dispute over property rights will be able to negotiate an economically optimal solution, regardless of the initial distribution of the property rights.
- The Coase Theorem offers a potentially useful way to think about how to best resolve conflicts between competing business or other economic uses of limited resources.
- In order for the Coase Theorem to apply fully, the conditions of efficient, competitive markets, and most importantly zero transactions costs, must occur.

The clear delineation of private property rights is an essential prelude to market transactions. The clearer the property rights, the lower the transaction costs and the higher the efficiency. This theorem could be reflected in the protection of historical buildings; that is, when the property rights of historical buildings are clear, the operation of the market mechanism and adaptive reuse of historical buildings are efficient and can be used appropriately. However, when property rights are unclear, the protection of historical buildings is hindered and their destruction is exacerbated.

Coase holds the view that 'The delimitation of rights is an essential prelude to market

transactions' (Coase, 1988). In the process of urban renewal and adaptive reuse of historical buildings, clarifying property rights is a prime concern (Bowen, 1975). Coase further states that a government is a super firm because it can influence the use of production factors through administrative decisions (Coase, 1960). For example, a given government can establish a set of legal systems about rights that can be adjusted through market transactions; it can also compulsorily stipulate rules or laws and require people to obey them. The adjustment of one kind of right produces more output values than other arrangements (Coase, 1960).

Stigler summarised the first Coase theorem and second Coase theorem from the problem of social cost. Given zero transaction costs and clearly defined property rights, resource allocation is not dependent on how the rights are assigned and is consistently Pareto optimum. In the third Coase theorem, which was identified by Steven Cheung, the delimitation of rights is an essential prelude to market transactions. In the process of urban renewal and adaptive reuse of historic buildings, the clarification of property rights is a prime concern. In the authors' previous research, the muddled property rights of historic buildings are classified as public ownership, private ownership and public-private co-ownership. Public ownership is divided into buildings owned by the housing authority for indemnificatory housing and houses used by government-affiliated institutions. When property rights are public, the government is responsible for the transformation and renewal of historic buildings. Solutions to private property rights also vary on the basis of different perspectives. During the period of socialist transformation, the treatment of private property rights involved social justice.

Specifically, the state adopted redistribution in favour of the poor. However, this practice infringes upon the ownership of private property. In recent years, the state generally respected private property without harming the public, thereby playing a supervisory role.

Coase further stated that a government is a super firm, because it can influence the use of production factors through administrative decisions. Lawrence Lai proposed the fourth theorem on the role of the state in Coase theorem: 'State rules can expand the market'. Such rules support state planning for the resource market, because they can enlarge the market. However, the present study discusses the role in which the super firm plays as a participant in heritage conservation.

In fact, in the early stage of the research, no suitable theory was found to guide the research. Few papers about the application of Coase Theorem in the renovation work of historic cities have been found in the stage of literature review. Because China's research on the protection of historical cities focuses more on technology than system. Even the research on the property rights of historic buildings is very few. Only some factors which affect the protection and renewal of historical cities can be found in the literature, but there is little discussion on the relationship between factors. The lack of theoretical support has become the most significant trouble during the early stage.

The protection of historical and cultural cities is a systematic project that can be achieved through government intervention and the market mechanism. During the site visit, it was found that a series of problems led by property rights and funds. However, the government's strong operation ability can effectively integrate resources and

complete complex work through systems. The theory should explain the institutional research theory of property rights and economic means. Moreover, the theory must be scientific and stand the test of time. Coase Theorem won the Nobel Prize in 1991. Coase himself, Steven Cheung and other experts have tried this theory in China for 35 years. There is no doubt that the new political economy led by Coase has become the theory of this research.

But the literature shows that few attempts were applied in urban planning. So the research is the innovation of this study and a bold attempt. The follow-up research shows that such an attempt is feasible, and the research results also show that Coase Theorem can be applied to the protection of historical buildings.

Just mentioned, in the literature review stage, it is found that most of the research on the renewal of old cities focuses on the technical level and transforms specific cases through rich technical means. There are many such studies. However, few studies on the social problems caused by institutional change and the interactive relationship between government behaviour and market economy. Professor Zhang Jie of Tsinghua University also mentioned the current domestic issues in his book. He once applied new political economics to the study of the transformation of old cities. Professor Shao Yong of Tongji University also said that property rights had become the most critical issue transforming old towns. To break the deadlock and sort out the dislocation relationship need to be solved. Their research also gave me a lot of inspiration.

2.2 Concept of Cultural/Heritage Routes

The Council of Europe launched the Cultural Routes Programme to demonstrate how the heritage of the different countries and cultures in Europe contributes to a shared cultural heritage. The fundamental principles of this programme focus on cultural diversity and identity, dialogues, mutual exchange and enrichment across boundaries and centuries. The International Council on Monuments and Sites (ICOMOS) defined this type of heritage as any route of communication, which is characterised by its own specific dynamic and historic functionality. Such heritage must arise from, reflect and promote the interactive movements of people as well as multidimensional, continuous and reciprocal exchanges, which affect tangible and intangible culture. Moreover, it should integrate historic relations and cultural properties associated with its existence into a dynamic system. Heritage protection is a dynamic process that involves the preservation of static historic buildings. When considering whether a heritage route is suitable for inclusion in the World Heritage List, the UNESCO World Heritage Convention (WHC) emphasises the dynamics of movements and idea of exchanges with continuity in space and time. Furthermore, the council highlights exchanges and dialogues between countries or regions.

Aside from regional exchanges and communication, demand for heritage authenticity and integrity makes conservation work difficult. Every cultural route must meet authenticity criteria and prove its value. Historic value should also be evident in the natural and cultural contexts of each stretch of a route as well as in the other tangible and intangible heritage elements included within its historic functionality and setting.

Techniques and methodologies used for the protection, conservation and management of heritage routes, whether traditional or newly implemented, must respect the authenticity criteria. Verification of the integrity of a heritage route must be based on a sufficiently representative set of tangible and intangible evidence and elements that bear witness to its global significance and value. The complete representation of the features and importance of the historic processes that generated the heritage route must also be ensured. These two requirements should be evaluated by professionals involved in every aspect of heritage value.

In addition, public participation of inhabitants of areas along a route is important, which calls for raising public awareness on the protection, conservation/preservation, promotion and management of a heritage route. A compelling force is needed to integrate professionals, enterprises and public resources to protect historic buildings and resolve conflicts among different stakeholders.

Presently, the three mainstream institutions (i.e. UNESCO WHC, European Institute of Cultural Routes [EICR] and ICOMOS) define cultural routes, and similarities include time and space, communication and cultural multidimensionality (diversity). On the one hand, the EICR, as a platform for multinational cooperation, aims to build a cultural display and exchange route against the background of multinational cultural democracy, diversity and identity. It conforms to the EU cooperation concept and values the social attributes of linear heritage. On the other hand, the ICOMOS and UNESCO WHC, as NGOs, focus mostly on uncovering the essence of heritage, highlighting the value of heritage and emphasising protection and awareness. The functional renaissance of

heritage routes can arouse people's identity and promote cultural exchange and economic development. In the protection of such type of heritage, directors must consider its specific functionality to serve a concrete and well-determined purpose and its tangible and intangible value generated dynamically as a result of reciprocal cultural influences. However, regardless of their definition, heritage conservation entails high requirements, and the role of the state is highlighted, which cannot be played by any other institution or enterprise.

In the United States, heritage sites are typically managed by state governments and nonprofit organisations. The Pontcysyllte Aqueduct and Canal, which is a cultural route in the United Kingdom of Great Britain and Northern Ireland, is managed by the English Heritage Committee. It is supervised by the government, which consults with NGOs. This type of conservation work forms an effective management and supervision mechanism with the participation of the government, organisations and the public. In these two cases, the state or government plays only a supervisory role. However, to promote dialogues between regions and countries, protect the authenticity and integrity of heritage and integrate public resources effectively, the above points present high requirements for the state.

2.3 Historic Urban Landscape

The factors influencing the governance model of historical buildings are considered from four dimensions (i.e. social, economic, environmental and institutional) by using

the theory of Historic Urban Landscape as a theoretical framework (Table 1).

2.4 Framework of the Research

On the premise of conforming to the law of Chinese Cultural Relics, according to Coase theory, an operational model can be established to make the historical buildings be properly maintained as far as possible. In this governance model (Figure 1), the government is responsible for the management and maintenance of the historical buildings with public property rights, while the private property owners are responsible for the maintenance of their buildings. In this research, Pingjiang Historic Block is selected to test the feasibility of this model.

Table 1 Different levels of factors and their references

Main Themes	Factors	Sub-factors	References	
			Academic	Industrial
Regulatory	Legislative and regulatory measures		Ruan (2012)	
	Government policy and attention		Xia (2019)	
	Policy implementation and monitoring		Ruan (2012)	
	Policy Compliance	Consistency with the upper-level planning	Xia (2015)	
	Governance	Stakeholder engagement in planning		BREEAM Communities (2012)
		Collaborative System for area management	Ren (2015); Peng (2015)	
Civic Engagement	Residents' willing	Relocation	Guo et al. (2020)	
	Support from experts and institutions			UNESCO (2011)
	Sense of Place and Community Identity	Preservation and Renovation of Historical Buildings	Yung (2012)	
		Local Character	Stubbs (2004)	
	Significance of the site		Yung (2011)	
	Public Participation	Private Capital	Jiang (2015)	
		Experts and NGOs supports	Xu (2015)	

Knowledge and Planning	Sustainable Buildings	Minimum building energy performance	Langston (2018)	
		potential reduction in greenhouse gas emissions from different solutions		BREEAM Communities (2012);
	Integrity and authenticity			UNESCO (2011)
	Cultural significance and diversity			UNESCO (2011)
	Urban Environment and Planning			UNESCO (2011)
	Street and Transport	Safe and appealing streets	Stubbs (2004)	BREEAM Communities (2012)
		Public transport facilities	Berardi, U. (2013)	
	Resource and materials	Life Cycle Assessment	Langston (2018)	
		Historical resource preservation and adaptive reuse	Langston (2018)	
Financial	Models of partnerships			UNESCO (2011)
	Appropriate forms of funding			UNESCO (2011)
	Property Rights	Adaptive reuse	Yung (2012)	
	Quality of the Management and Maintenance	Maintenance	Ren (2015)	
	Growing Potential	Responsible Organization for Attracting investment	Jiang (2016)	
		Cooperative activities	Berardi (2013)	

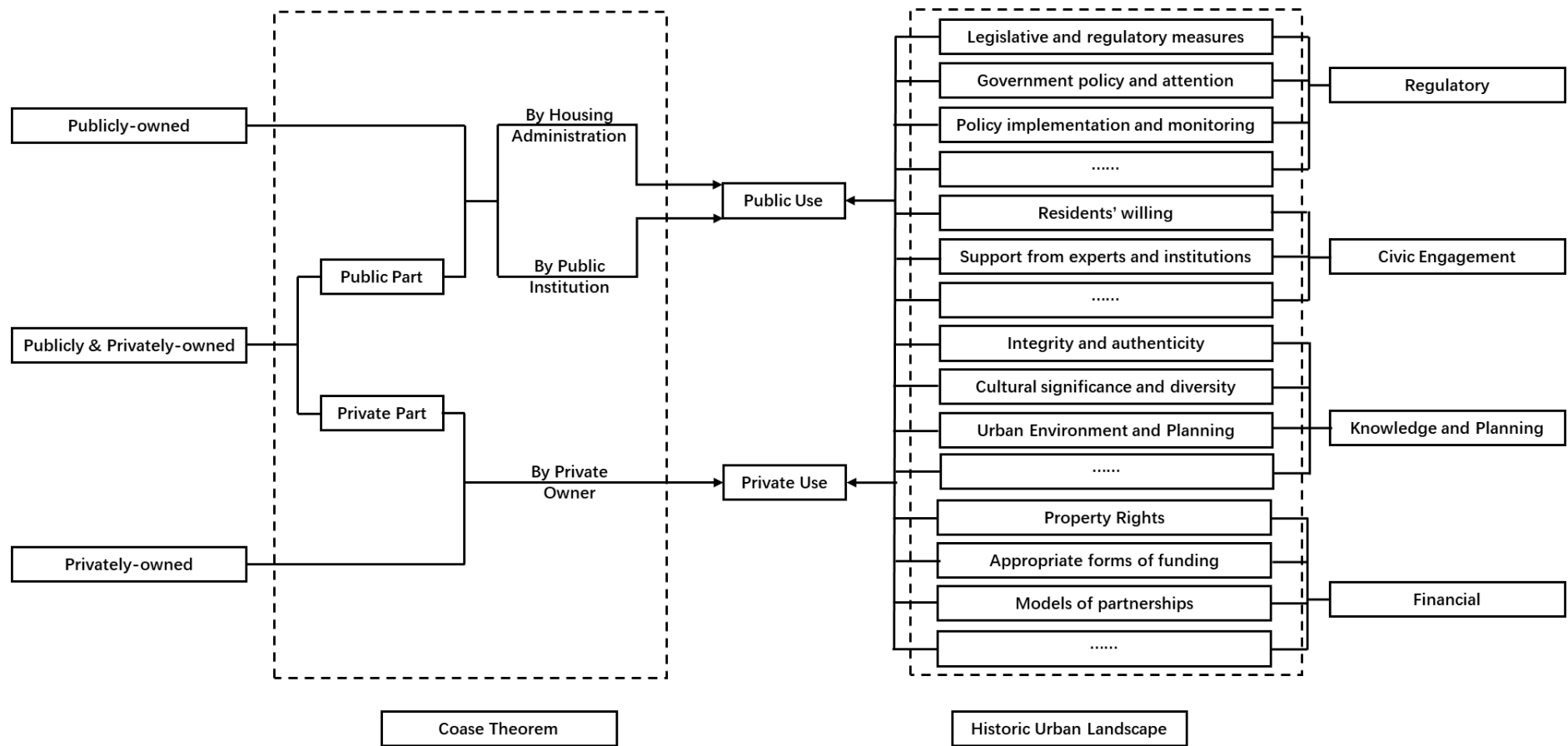


Figure 3 Transformation of Property Rights and Sustainability indicators into Framework Conducive to the Governance Model for Historic Buildings Conservation

Chapter 3 Literature Review

3.1 Old City Renovation and Heritage Conservation

According to *The Old City of Beijing and Its Juer Hutong Neighbourhood*, Wu (1994) defines ‘old city’ as the centralised traditional living area within a metropolitan area that had been formed during a long history; the area generally played a great influence as the central zone of the said city in history. He illustrates the renewal activities are mainly embodied in three aspects: a. reconstruction, rebuilding, or redevelopment; b. renovation; c. protection.

At present, domestic studies on old city renewal and heritage protection had amassed numerous achievements. Wu Liangyong proposed ‘organic renewal’ theory, which pointed out that a city is a living organism in which millions of people live and work, and that the urban cells constituting its own tissue have been continuously metabolising and should head to a new ‘organic order’ through constant urban ‘organic renewal’. Such renewal models in other cities also adopt the appropriate scale and standards to properly address the relationship between today and the future in accordance with reconstructed content and requirements (Zhang, 2010).

Traditional buildings, traditional streets and blocks comprise the main constituent area of an old city. With the advancement of urbanization, the shortage of land resources is constantly squeezing the space of the old city. The old cities are facing a poor situation. The structures of historical buildings with prominently old-fashioned and shabby

facilities have been damaged and decayed (Chen & Ruan, 2008). Along with material decadence and structural ageing of traditional buildings, these buildings gradually lost their residential function until they are abandoned and unoccupied. The overall maintenance and renovation are badly needed.

However, the historical blocks in the old city face another problem, because they are located in the core of the city and served as the core district of urban development, densely populated and narrow public space. A dense population will certainly cause a decline in the construction of land per capita in the old city and largely decrease the areas for public facilities. The most direct outward manifestation of decline is the worn-out, where old people and a non-local population live there. Along with the advancement of urbanisation and gathering of external population in old cities, the acquaintance social space structure that is full of affinity is gradually replaced by a social structure formed by strangers from different places with whom there is no blood relationship or emotional relationship (Carmon, 1999). In many old city, one traditional building generally accommodates several, or even dozens, of households (Hua, 2009). Under high property rights density, residents don't have any belongingness in the poor crowded living environment (Hao, 1999). The society transforms from a 'homeland attachment' society to a 'rootless' one (Couch, 1990). The current social problems in old cities seriously hinders urban development. It needs to be urgently improved.

3.2 Financing Method of Heritage Conservation

Financing is a major subject in heritage conservation projects. Locals often do not have the financial means to protect and renovate heritage structures with the necessary skills. Low-income households, often living in culturally important neighbourhoods with heritage structures, are the weakest in competition with new urban developments. However, they contribute much to the social quality of a community. To prevent the renewal process from being dominated by powerful investors, urban renewal programmes must combine a variety of private and public finance schemes of different scales.

With respect to heritage protection, every country has encountered or is encountering shortage in heritage protection fund, inadequate awareness of heritage protection, and insufficient local financial support and protection. Chinese critics blasted the fund shortage and inadequate heritage protection awareness in China. These problems are not uncommon in other countries. In addition to fiscal allocation, HLF provides a new way to raise money for heritage protection and development. Thus, HLF realised its original aim, which is to maintain traditional value in modern times, raise awareness on historical cultural heritage, improve the understanding about its people and country, enhance the preservation of the historical cultural heritage of Britain, encourage people to persist in historical cultural heritage protection, and enable foreign people to join in the study, appreciation and protection of British heritage.

Heritage projects funded by HLF are diverse. They are mostly traditional heritage protection initiatives, and mostly the renovation of ancient constructions. Since 2013,

private historical constructions in Britain have had a chance to be supported by HLF, but the precondition is that they should be open to the public; hence, they must benefit the public (Gould, 2016). That is what mutual benefit means, namely, to use public welfare fund for the benefit of the public. In addition to heritage protection itself, long-term development of heritage protection depends on public awareness of heritage protection. Neither policy nor financial support can match voluntary and customary heritage protection by the public. In addition to training plans for professionals, HLF has funded heritage protection projects for families and schools. A growing number of young people have been encouraged to participate in heritage protection (Maeer, 2016). In China, with the rapid expansion of cities and diversified interest groups in old cities, the financing mode of old city renewal has gradually changed from a single mode primarily led by the government to diversified modes with numerous supporters (Zhang, 2010). Game is everywhere in all human and social activities. Urban renewal is not an exception; games take place between developers and government, developers and residents, residents and government, as well as games within the government.

The leading factors that promoted old city renovation are based upon multiple factors and have been sorted, concluded and summarised in the modes of old city renovation (Zhang, 2010).

A. The financing mode driven by real estate—renovation mode that primarily relies on market transactions

Since the 1990s, real estate development and construction began to participate in old city renovations and soon developed into the primary mode of renovation. Hence, the

scale of old city renovation developed rapidly, and the speed of renovation increased. The operation mode of renovation was simplified into ‘demolishing the old and constructing the new’, that is, demolishing old buildings (including traditional buildings), and constructing new buildings. The mode of old city renovation guided by real estate development is trading activities that, under the guidance of the market economy, take a residential property and land property in old cities as products of market operation, aimed at obtaining maximum profits (Chen & Ruan, 2008). Therefore, the property of such renovation modes are commodity transactions, and the purpose is to obtain maximum profits. The funds are collected by real estate companies.

As such modes have developed, numerous patterns have gradually emerged. One of the new patterns is to develop characteristic commercial and tourism features in an old city and combine them with the unique traditional feature of the city. Typical examples are Xintiandi in Shanghai and the Nanjing 1912 block.

B. The financing mode driven by big events

This renovation mode takes social activity as an opportunity for renovation. City events refer to activities in which a city, as the subject, hosts activities with regional or international influence, or activities with cultural or political features, or activities that can lead to people gathering during a specific period. In this situation, a major city event is taken as an opportunity to carry out large-scale old city renovation campaigns, such as old city road construction, environmental improvement, or the construction of buildings of significance. As a result of the construction of these projects, the appearance of the old city has been changed and the living environment of residents has

improved to a certain degree, including an improvement in the quality of life. For example, to hold the Olympic Games in 2008, Beijing implemented a project for the protection and renovation of the Dashilan area; to hold the World Expo in 2010, Shanghai implemented a project aimed at ‘comprehensively protecting lanes and alleys’, and such projects were all old city renewal campaigns driven by typical ‘big events’ (Zhou & Chen, 2007). Under this mode, the government affords the budget of historic building renovation.

C. The financing mode of privatised property rights—the renewal mode under the guidance of a market-oriented transfer

This renovation mode promotes the property rights transaction of traditional buildings in old cities by making use of market-oriented transfer, and the act that realises old city heritage protection and renovation by means of property right privatisation (Austin et al., 1988, Jokilehto, 2011). For example, Beijing promulgated the policy to encourage marketed transactions of courtyard houses. This mode relieves the pressure that the government faces in old city protection mainly by privatising the property rights of traditional buildings, historical buildings and even historical relics. By making full use of private funds, manpower and material resources to enhance old city protection, the protection and renewal mode that mainly relies on the funds and efforts of the government has changed (Shao & Ruan, 2003, Plevoets & Van, 2011). Private individuals afford the fund during the renovation.

D. The financing mode of remodelling dangerous buildings—the renovation mode under the guidance of the government

This financing mode refers to the construction carried out to improve the living environment of residents in the context as the problems involved in old city buildings had become increasingly serious and dangerous; the living environment of residents was extremely adverse. Old city renewal remodelling activity under the guidance of the government and units was permitted in a top-down approach as the feature of this mode (Gould, 2016). At the beginning of the campaign, many dangerous buildings in the old city were remodelled and residents benefited from it. However, since the 1990s, when old buildings became dangerous structures, the scope and scale of remodelling increased rapidly, and the target and property of remodelling also deviated. The government has the financial budget for maintenance to satisfy the demand.

3.3 Property Right and the Property Right System

Property right refers to the behaviour relationships of people resulting from the existence of objects and their use. The property right is the right under the unification of government enforcement and market forces. The property right system refers to the systemised property right relationship, and it is the system support for dividing, determining, defining, protecting, and exercising one's property right. The property rights system can be further divided into formal rules, including laws, regulations, social contracts, construction, the determination of organisations, etc. The other type is informal rules, including cultural tradition, habits, conventions, moral rules, etc.

The property right includes ownership, the right of possession, the right of control, and

the right of use. Suppose the property right is not explicitly defined. In that case, individuals cannot have a reasonable expectation while making transactions with others, and society will lose the benefits generated by labour division and cooperation. Additionally, opportunistic behaviours such as infringing on the rights and interests of others will appear, and social disruption will be inevitable. Similarly, when individuals' property rights cannot be protected by society, individuals cannot make extended-term economic plans and arrangements. They will consequently lose the incentive to accumulate and protect resources. The negative drawback to all of this is that the act of wasting and destroying resources will begin to appear.

Connotation of Historical Building Property Rights

Article 5, Chapter 1 of The Law on Protection of Cultural Relics of China stipulates that for all memorial buildings, historical buildings and cultural relics that are collectively or privately owned, ownership is protected by national laws. The owners of these cultural relics must abide by the regulations of the country on cultural relic protection and management. In addition, The Law on Protection of Cultural Relics of China also stipulates that buildings protected as cultural relics owned by the state are not allowed to be sold. However, defining the boundary of property rights or the boundary is difficult and obscure in actual operation. Some old buildings are used as public houses with property rights under the direct administration of the government. Most of these buildings are overused and have endured substantial 'exposure to wind and rain'; hence, they incur an extremely high degree of damage. As a result, expenses for maintenance are huge, and residents have no motivation to contribute to maintain

such buildings. Article 6 Chapter 1 of The Law on Protection of Cultural Relics stipulates that expenses for cultural relic protection and management shall be included in the financial budget of the central and local governments, respectively. That is, the protection and management of historical resident houses shall be arranged by the national government, and the government shall fund the repair and protection of these historical resident houses. Although residents do not need to make any contribution, they can enjoy these benefits. In such case, these houses repaired with the capital of the government can be regarded as a form of public article, and any resident can enjoy it for free. Therefore, people will not be mindful of the protection of historical buildings, because they can enjoy the benefits even without undertaking any responsibility. As a result, residents may tend to overuse buildings under control protection, and they may even damage them during use. Though the government can set up supervision departments to monitor residents' behaviours, the costs are too high. Conflicts will ensue between the use and maintenance of historical residential buildings, resulting in disputes between the government's invalid investment in such building and the over-consumption of residents.

To solve this problem, some historic cities have promulgated a series of standardised measures for the use and protection of historical buildings, such as The Construction Guide of Suzhou for the Maintenance Engineering of Historical Buildings as Cultural Relics (Trial) (2006). Article 3 of The Regulations of Suzhou on Conservation of Historic Buildings (2002) stipulates that for privately owned historical buildings, owners shall be the people responsible for its protection and management. For non-

privately-owned historical buildings, the end-users shall be responsible for its protection and management. For historical buildings used as residential houses, management units shall be the first responsible unit for its protection and management, and users shall be the second unit responsible.

However, due to problems on capital and property rights, buildings under control protection, which are under the administration of the Suzhou Housing Management Bureau, are usually not repaired in accordance with such rules or not repaired at all. Buildings with privately or collectively owned property rights are required to be repaired and maintained in accordance with the requirements of the Suzhou government and undergo acceptance checks. As a result, buildings under control protection that suffer from the most severe damage are historical buildings whose property rights belongs to the state.

Chapter 4 Methodology and Research Design

4.1 Methodology

4.1.1 Combination of literature review with field surveys

Literature review requires intensifying the understanding towards relevant theories to lay a solid foundation for the in-depth analysis on the defects of urban renewal planning system. The relevant theories mainly include science of the new economic system, science of public management, policy science, politics, science of history, science of law, cultural anthropology, human geography, sociology and archaeology.

When learning relevant theoretical knowledge in literature review, reviewing urban planning, especially relevant policies and technical measures on urban renewal, and conducting a field survey by integrating the literature are necessary. Field surveys should focus on old district relocation areas in large cities by conducting tracking surveys on relocated householders before, during and after their relocation. First-hand information will also be collected to properly prepare solutions to potential future problems. The research and survey mainly focus on old districts such as Pingjiang Historic District in Suzhou.

4.1.2 Historical induction and logical analysis methods

By applying the historical induction method, the thesis summarised the system change

history related to urban renewal, such as the change history of policies on land, relocation, housing, heritage conservation. The thesis also focused on the changing history of relevant legal institutions and conducted logical reasoning and analysis on a theoretical basis. The objective is to reveal internal historical factors that have caused old district problems in order to offer references for solving these problems.

4.1.3 Institutional analysis method

Under the context of the diversification of interests in the city, the planning and design of urban renewal have gradually manifested their major influences on public policies. Considering the particularity of institutional problems of planning, the thesis applied the institutional analysis method, primarily to figure out problems in urban renewal from the aspect of institutional analysis, to see through the nature of old district problems and to explore channels to solve these problems. The institutional analysis method is a general term for human behaviour analysis, interest conflict analysis and interpersonal relationship (production relationship) analysis.

4.1.4 Analytic Hierarchy Process

Analytic Hierarchy Process is a multi-criteria decision-making method for quantitative analysis of qualitative problems. It organizes various factors in complex problems by dividing them into interrelated and orderly levels. According to the subjective judgment

structure of certain objective reality (mainly pairwise comparison), the objective judgment results of expert opinions are directly and effectively combined for quantitative description. Then, the weight reflecting the relative importance order of elements at each level is calculated by mathematical method, and the relative weight of all elements is calculated and sorted through the total ranking among all levels. In this study, the factors affecting the reconstruction project will be compared, so as to find out the factors that determine the reconstruction mode.

4.2 Case Study Design

4.2.1 Research object- Pingjiang historic district

This research selects Pingjiang Historic Block as the object for test-bed because the historical buildings in this district cover nearly all modes of property rights existing in China, which are highly concentrated in the current reconstruction of old cities, as well as protection and renewal of historical blocks in China (Peng & Hu, 2014). The government has taken numerous effective measures to protect the historic block, such as the ‘Protection and Restoration of Historical buildings Project’. It was highly praised for the revitalisation project. In 2005, UNESCO awarded the ‘Asia-Pacific Heritage Award’ to the Pingjiang Historic Block. According to the organising committee, ‘The revitalisation project is a commendable example of integrated urban rehabilitation, which has restored the physical, social and commercial fabric of one of China’s most well-known waterway historic towns’. However, certain renovation projects still have

been delayed owing to property rights issues. Pingjiang Historic Block is highly representative and is of prohibitive research value. The present study focuses on the discussion of historical buildings with complex property rights structures.

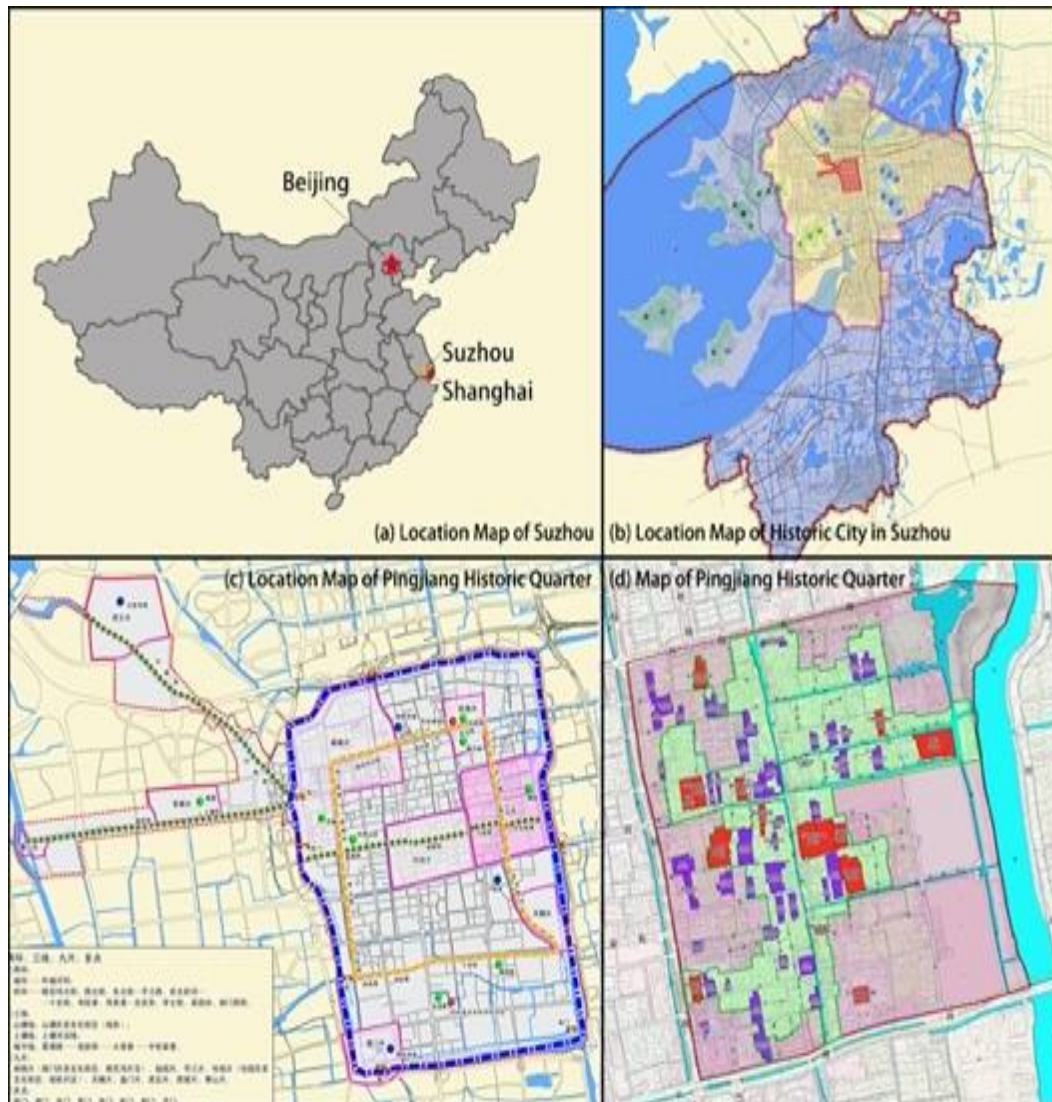


Figure 4 (a) Map showing the location of Suzhou; (b) map showing the location of the historic city of Suzhou; (c) map showing the location of Pingjiang Historic Block; (d) map of Pingjiang Historic Block (source: Suzhou Planning Bureau website).

There are a total of 63 historic sites arranged along both sides of the street (Figure 2), including one world material cultural heritage site, one world nonmaterial cultural heritage exhibit place, three national-level cultural relic protection units, and 15 provincial and municipal cultural relic protection units and controlled and protected

buildings (as of 2015). The property rights analysis conducted in this study was based on real and accurate data. These sites provide a considerable amount of research subjects (Liu, 2008; Lin & Ruan, 2006). Official data obtained from functional government departments would have been the best choice. However, the government claims that it lacks accurate property rights data. Based on the literature, the property rights structure of several historical buildings in Suzhou are only recorded in the 'Protection and Utilisation of Controlled and Protected Buildings in the Ancient City of Suzhou'. However, obtaining property data that genuinely and thoroughly reflect the current state was difficult. Therefore, to fill this gap, the authors selected the Pingjiang Historic Block, which is a representative historic quarter, as a pilot for a field investigation for two years and discovered and sorted out information that contradicted certain literature descriptions.

Pingjiang Road is located at the northeast corner of Suzhou Ancient City. Pingjiang is adjacent to the outer east river ring, with Lindun road to the west, Ganjiang Road to the south and Baita east road to the north. With an area of approximately 116.5 hectares, Pingjiang was defined as an absolute protection area in 1986 by the state council according to the 'Urban Master Plan of Suzhou City'. The defining feature of the road is that it has fully preserved the unique urban layout of a double chessboard pattern with water and land designed by Wuzixu from the Wu Kingdom. The road was built in 514 BC during the construction of the Helv Grand City, which is the area with the most intact preservation of a traditional urban layout, architectural features and customs in Suzhou Ancient City. Helv is famous for being the epitome of Suzou Ancient City.

As an integral section of the prominent historical and cultural city of Suzhou Ancient City, the current overall layout of Pingjiang Road has survived for a thousand years. It has maintained the landscape of the south of the lower reaches of Yangtze River, particularly ‘a small bridge over the flowing stream, with white walls and black tiles’; it has accumulated profound cultural deposits and concentrated extremely abundant historic remains and human landscapes. Inside is the world cultural heritage site Ouyuan Garden, Kunqu Opera Museum of China (Quanjin Assembly Hall), which

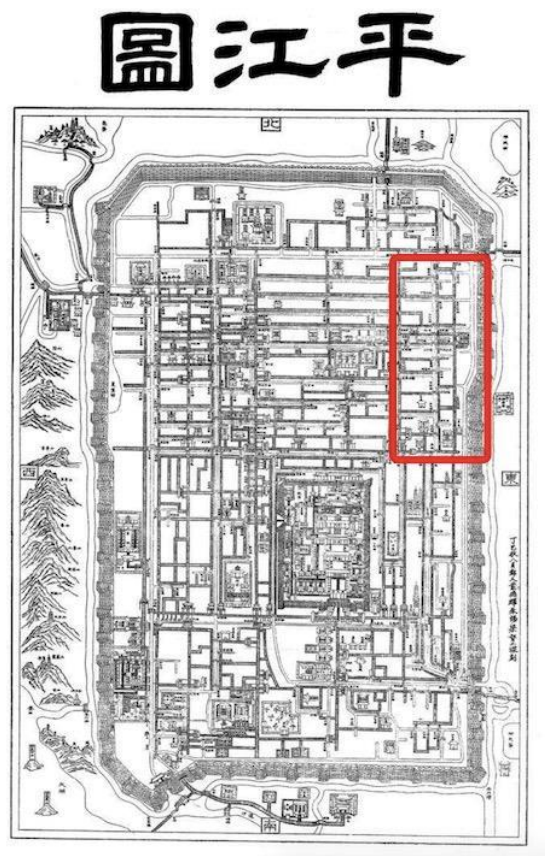


Figure 5 Pingjiang Map

showcases the Kunqu Opera as a masterpiece of oral and intangible cultural heritage of humanity. In addition are 9 historical and cultural sites under government protection, 43 controlled and protected buildings, 20 former residences of celebrities, 2 ancient memorial archways and 10 ancient wells. Moreover, numerous ancient trees abound the

area like a museum of urban architecture in the southern part of the lower reaches of Yangtze River with no venues. Many refined scholars, gentlemen, high officials and noble lords lived in the area. A few of these top scholars are Ming Dynasty's Shen Shixing, Qing Dynasty's Pan Shien, Wu Yanchen, diplomat Hong Jun, modern Chinese master GuJiegang, literary critic Guo Shaoyu, well-known doctor Qian Boxuan and film critic Tang Na. The Kunqu Opera Museum and Pingtan (storytelling and ballad singing in Suzhou dialect) Museum located in the area have served as major carriers of China's intangible cultural heritage.

The lifestyle-oriented functions of Pingjiang Road have been retained after thousands of years. Currently, more than 8,000 households of indigenous people live in the area, continuing with the original and vivid lifestyles that are distinct in Suzhou. In 1986, the 'Urban Master Plan of Suzhou' defined the Pingjiang Road Historic District as a historical and cultural protection area. Many years after the plan was announced, the local government made great efforts to protect this old course with more than 800 years of history. In 2002, to welcome the 28th WHC in Suzhou, the municipal party committee and municipal government of Suzhou launched the Pingjiang Road Landscape Protection and Environment Renovation Pilot Test Project and approved the 'Suzhou Pingjiang Historical Cultural District Protection and Renovation Plan in Suzhou Ancient City' prepared by Tongji University; the chapter of urban heritage protection on Pingjiang Road was initiated. During the period between 2002 and 2004, Suzhou implemented the Pingjiang Road Landscape Protection and Environment Renovation Project. The project attempted to restore the original appearance of the main

sections of Pingjiang Road by demolishing unauthorised construction, burying pipelines, paving pebble roads, dredging the riverway and repairing old houses. In 2005, due to outstanding protection work, Pingjiang Road was honoured with the ‘Asia-Pacific Heritage Award for Culture Heritage Conservation’ by UNESCO. It was the only historical district project in Asia that won the award that year. The judging panel of UNESCO remarked, ‘this project is a paradigm for urban rehabilitation; its outstanding performances regarding historical landscape protection, social structure maintenance, and implementation operations have demonstrated historical districts could march ahead towards sustainable development’. By observing the principle of repairing the old in accordance to its original appearance, residents in Pingjiang Road would not leave for any large-scale commercial development. Therefore, it gives off a breath of life that is different from Beijing Houhai, Yangshuo West Street and Lijiang Ancient City.

Four reasons explain why Pingjiang Historical District has been selected.

- A. Pingjiang Historical District was selected in the first batch of ‘Directory of Famous Chinese Historical and Cultural Streets’, and it has extremely high cultural and historical values.
- B. It contains all forms of complex property right in modern historical buildings, and has a typical representativeness.
- C. It contains all methods and channels for the activation, protection and utilisation of historical buildings, and has extremely high research value.
- D. In 2005, due to outstanding protection works, Pingjiang Historical District was

honoured with the ‘Asia Pacific Cultural Heritage Award for Culture Heritage Conservation’ by UNESCO. Therefore, it has extremely high reference significance. During case analysis, this report will elaborate the achievements of Pingjiang Historical District in heritage protection and reusing projects, as well as corresponding concerns. Objects of study of this report include national, provincial and municipal-level historical and cultural sites under government protection located within Pingjiang Historical District and buildings under the municipal control of Suzhou.

4.2.2 Research Framework

During the investigation and research, the following methods are adopted: reference of documentations and archives, visits and investigation by competent departments and administrators, interview by experts and scholars, investigation for residents and users and visits and questionnaire interview to operators.

At the initial stage, the research method literature review will be completed. At the same time, the first interview with the government authorities and experts will be conducted. Then, the questionnaire can be designed for the next stage. In the investigation stage, the second interview with residents and enterprises will be conducted to obtain detailed information such as the situation of property rights, financing modes and adaptive reuse cases. In the data processing stage, the ArcGIS software will be used to analyse the relationship among property rights and other factors that can determine which financing method can be applied in the heritage conservation projects. At the last stage, the model

will be tested to generate the results.

The survey was based on the latest version of the ‘Suzhou Pingjiang Historical and Cultural Street Protection Plan’ (2014) issued by the Suzhou Municipal Planning Bureau. In conjunction with the ‘List of Suzhou Controlled and Protected Buildings’ of the same year provided by the Suzhou Bureau of Cultural Relics, a field investigation was conducted in the 63 existing national, provincial, and municipal cultural relic protection units and controlled and protected buildings, which were set up by the Suzhou municipal government. Registered property right structures, households, resident compositions, the current protection situation, existing functions, and other aspects were also investigated.

Face-to-face interviews were conducted with experts, administrators, and residents (Table 1). The authors also visited competent government departments in Suzhou, including the Department of Housing Management; Department of Planning, Land and Resources Bureau; and Urban Construction Archives Bureau. A massive amount of first-hand material was obtained, documents with approximately 80,000 characters transcribed from audio recordings were compiled, and nearly 3000 photos and videos were sorted. The investigation lasted for two years of 2017-2019, and the data were updated in August 2019.

A total of 63 historical sites are found in the historical district. Owing to the complicated property right structures of historical buildings, the author failed to obtain official information from the government. To study the authenticity and accuracy of the data, the research method of on-site investigation was adopted to explore the source of

property rights model and protection funds. The financing model involves commercial operations. To gain in-depth understanding of its operation, one-on-one interviews will be conducted with participants of historical building renovation projects.

This research is divided into three phases. The first stage is the literature review, in which knowledge about the modes and funding sources of historic district protection and renovation projects will be acquired, and a theoretical framework will be established. In accordance with the understanding of the Pingjiang Historic District, this study selected the latest version of the ‘Suzhou Pingjiang Historical and Cultural Street Protection Plan’ (2014) issued by the Suzhou Municipal Planning Bureau, in conjunction with the ‘List of Suzhou Controlled and Protected Buildings’ issued by the Suzhou Municipal Bureau of Cultural Relics in the same year. Subsequently, the authors formulated the research plan and identified the historical buildings that need on-site field investigation.

The second stage is on-site field investigation. According to the research plan, the 63 existing historical relics were visited one by one. In 10 intensive visits to Pingjiang Historic Quarters, interviews with managers and users of historical buildings revealed the composition of the property rights of these historical buildings and the source of protection funds. Given that the reconstruction of the block is a dynamic and continuous process, the six-year follow-up shows the changes of property rights and renovation projects. The results shown in this article are based on the results of the last survey conducted in October 2020.

The third stage is face-to-face interviews. The literature review content of the first phase

and the field survey results of the second phase were supplemented by means of face-to-face interviews with participants and experts of the renovation project. Seven experts successively participated in expert consultation and suggestions on the renovation projects of Pingjiang Historic Block (Table 2). Other participants are the heads of five management departments that are responsible for Pingjiang, two enterprise managers involved in the renovation projects of Pingjiang Historic Block and one staff member of an NGO participating in the transformation.

In addition, according to the requirements of Analytical Hierarchy Process, 56 sub-factors under these four main factors and select 20 factors which relate to this research. Some authorities and institutions' criterion, factors and frameworks are considered in the process of identifying factors.

In the first-round interview, 4 experts (Table 3) scored each criterion on a scale of 1 to 5 to select the most important factors to the second-round interview.

The second-round interview, the AHP Questionnaire (Appendix C) has been considered three situations as Public-owned, Private-owned and Public & Private-owned. 30 experts (Table 4) scored these factors.

The third-round interview, 5 experts (Table 5) who know the situation of Suzhou well and have rich experience about the regeneration of Suzhou share their opinions with me verified the government model.

Table 2 Interviewees in face-to-face interviews

Category	Name of Interviewees or Institutions
Experts	AA (expert in ancient city protection) BB (director of China's Famous Historic and Cultural City Protection Research Academy) CC (expert in ancient city protection in Suzhou) DD (general manager of Suzhou Ancient City Investment and Construction Co., Ltd.) EE (director of Suzhou Pingjiang Historic District Protection and Maintenance Co., Ltd.) FF (director of Department of Planning of Suzhou University of Science and Technology) GG (founder of Cat's Castle in the Sky Concept Book Store)
Departments	Department of Housing Management Urban Construction Archives Bureau Department of Planning, Land and Resources Bureau Planning Bureau
Enterprises	Suzhou Pingjiang Historic District Protection and Renovation Co., Ltd. Suzhou Culture and Tourism Development Group (SCTDG)
NGOs	Suzhou Institute for the Conservation of National Historic Cities
Residents	Residents and users in the 63 historical relics in Pingjiang Historic Block

Table 3 Profile of the Experts in Interview (Round One)

No.	Name	Field of Expertise	Affiliation
1	Prof. AA	Heritage Conservation; Urban Planning	XX University, Shanghai, China
2	Prof. BB	Historical Building Conservation	XX University, Suzhou, China
3	Prof. CC	Heritage Conservation	XX University, Suzhou, China
4	Dr. DD	Urban Renewal	XX University, Suzhou, China

Table 4 Profile of the Experts in Interview (Round Two)

No.	Name	Field of Expertise	Affiliation
1	Prof. AA	Heritage Conservation; Urban Planning	XX University, Shanghai, China
2	Prof. BB	Historical Building Conservation	XX University, Suzhou, China
3	Prof. CC	Heritage Conservation	XX University, Suzhou, China
4	Mr. DD	Urban Renewal	Urban Renewal Developer, Chengdu, China
5	Prof. EE	Heritage Conservation	XX Think-tank
6	Prof. FF	Historical Building Conservation	XX University, Suzhou, China
7	Dr. GG	Architecture	XX University, Cambridge, United Kingdom
8	Prof. HH	Architectural Heritage Conservation	XX University, Beijing, China
9	Dr. II	Heritage Conservation	XX University, Shanghai, China
10	Dr. JJ	Urban Planning	XX University, Shenzhen, China
11	Prof. KK	Urban Renewal; Urban Planning	XX University, Suzhou, China

12	Prof. LL	Architectural Heritage Conservation	XX University, Shenzhen, China
13	Prof. MM	Urban Renewal; Urban Planning	XX University, Hangzhou, China
14	Dr. NN	Heritage Conservation	XX University, Hangzhou, China
15	Dr. OO	Historical Building Conservation	XX University, Shenzhen, China
16	Mr. PP	Heritage Conservation	Urban Renewal Developer, Fuzhou, China
17	Ms. QQ	Policy making	XX University, Suzhou, China
18	Ms. RR	Architectural Heritage Conservation	XX Think-tank
19	Mr. SS	Policy consultation	XX Bureau, Shanghai, China
20	Ms. TT	Policy making	XX Think-tank
21	Dr. UU	Policy consultation	XX University, Shenzhen, China
22	Mr. VV	Urban Renewal; Urban Planning	XX Bureau, Suzhou, China
23	Mr. WW	Urban Planning	XX Think-tank
24	Ms. XX	Policy consultation	XX Bureau, Suzhou, China

25	Mr. YY	Heritage Conservation	XX Think-tank
26	Mr. ZZ	Urban Renewal; Urban Planning	XX University, Suzhou, China
27	Dr. AB	Architectural Heritage Conservation	Urban Renewal Developer, Suzhou, China
28	Mr. AC	Policy making	XX Bureau, Suzhou, China
29	Ms. AD	Policy consultation	XX Think-tank
30	Mr. AE	Policy making	XX Bureau, Suzhou, China

Table 5 Profile of the Experts in Interview (Round Three)

No.	Name	Field of Expertise	Affiliation
1	Prof. AA	Heritage Conservation; Urban Planning	XX University, Shanghai, China
2	Prof. BB	Historical Building Conservation	XX University, Suzhou, China
3	Prof. CC	Heritage Conservation	XX University, Suzhou, China
4	Dr. DD	Urban Renewal	XX University, Suzhou, China
5	Mr. EE	Heritage Conservation	XX Think-tank

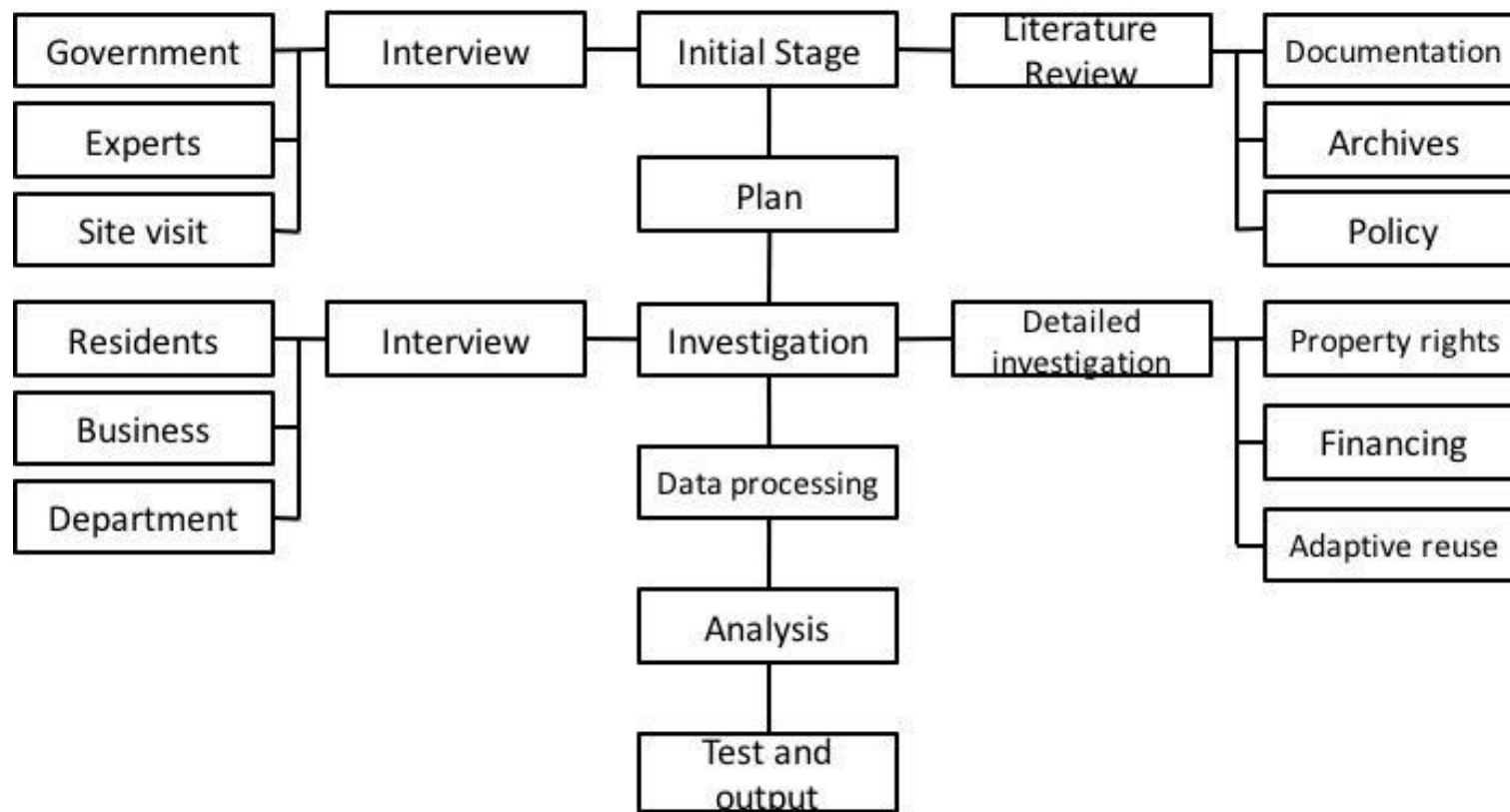


Figure 6 Research Framework

Chapter 5 Research Results

5.1 Review of the On-site Field Investigation

The investigation and research lasted for one year. Table 6 shows the list of experts, department authorities, enterprises, NGOs and residents.

A large amount of first-hand materials have been obtained, including compiled documents of approximately 80,000 characters extracted from audio recording and nearly 3,000 photos and videos. The data about the property rights situation in 2006 and the plans in the next 10 years have also been obtained. The current situation and that in 2006 are compared through maps. As a result, experiences can be concluded, reinforcing the lessons gained from success and failure. The improvement of conservation methods and financing modes can open a broad path for the next ten-year plan.

The results from the investigation indicate that the actual situation is different from the information provided from overnment authorities.

The constituents of buildings under control protection show that 63 buildings under control protection are purely public houses, accounting for 25% of the total amount of buildings under control protection in Suzhou Ancient City area. Almost 35 publicly and privately owned buildings have property rights, accounting for approximately 56%; and only approximately 6 are privately owned buildings, accounting for 10% of the total number of buildings under control protection. Among all buildings under control

protection, 18 public houses are under the direct administration of the housing management department, accounting for 29% of all buildings under control protection. This proportion of buildings under control protection is mainly used as low-rent houses provided for low-income families in Suzhou.

These survey results indicate that the property rights of privately owned buildings, which accounts for 10%, are in good condition with a beautiful appearance after proper maintenance. These buildings have had the best fortune among all 63 buildings. For public houses and buildings under control protection with property rights shared by the public and private, overload is a common concern due to too many residents in these buildings. Given that the property rights of owners and users remains unclear, severe shortage of protection funds, serious problems of inappropriate construction, as well as the completeness, appearance and structural stability of these buildings are greatly affected.

Table 7 shows a list of ownerships of historical sites in Pingjiang Historical Street. Ownership can be classified into three types: private, public and diversified. Private ownership refers to personal ownership. Public ownership, according to owners, includes enterprise and institution ownership, housing authority ownership, enterprise ownership and institution plus housing authority ownership. Diversified ownership refers to the mixed ownership of public and private ownership. In modern society, private ownership is rare.

Table 6 The interviewees in the investigation stage

Experts	Prof. Ruan Yisan	Prof. Xia Jian	Xu Gangyi	Peng Rui
Department	Department of Housing Management	Urban Construction Archives Bureau	Department of Planning	Land and Resources Bureau
Enterprise	Suzhou Pingjiang Historic Blocked Protection and Renovation co.,Ltd.		Suzhou Culture & Tourism Development Group(SCTDG)	
NGOs	Suzhou Institute for the Conservation of National Historic Cities			
Residents	Nearly 3000 residents and users		63 historic relics	

Table 7 Property rights of historic relics in Pingjiang Historic Block

Type of Property Rights	Property Owner	Quantity
Publicly-owned	Enterprises and Public Institutions	16
	Department of Housing Management	18
	Enterprises and Public Institutions+ Department of Housing Management	1
Privately-owned	Individual	6
Publicly & Privately-owned	Enterprises and Public Institutions + Individual	1
	Department of Housing Management + Individual	18
	Enterprises and Public Institutions + Department of Housing Management + Individual	3

5.2 Survey Results of Site Investigation

The research results present certain views that verified and corrected published literature. In the actual situation, constituents of the 63 historical relics in Pingjiang show that 35 buildings are publicly owned, accounting for 55.6% of the total number of buildings. A total of 22 publicly and privately owned buildings have property rights, accounting for approximately 35%. However, six buildings are privately owned, accounting for 9.5% of the total (Table 2). Among the controlled and protected buildings, 40 public houses are under the direct administration of the Housing Management Department, accounting for 63.5% of all historic relics. This portion is mainly used as low-rent houses provided for low-income families in Suzhou.

These survey results indicate that the property rights of privately owned buildings, which account for 9.5%, are clear and that these buildings are in a satisfactory condition and beautiful after proper maintenance. Moreover, these buildings are the most fortunate of the 63 buildings in terms of protection. As for public houses and buildings under controlled protection with property rights shared by public and private entities, which account for 63.5% of the total number of buildings, excessive use by numerous residents is apparent. Meanwhile, given the unclear property rights of owners and users, the severe shortage of protection funds, and serious inappropriate construction issues, the completeness, appearance, and structural stability of buildings under controlled protection are considerably affected.

Table 8 Property rights of historical relics in Pingjiang Historic Block (summarised by the authors)

Type of Property Rights ¹	Ownership	Management/Responsibility/Repair	No.	Case
Publicly-owned	Enterprises and Public Institutions	Enterprises and Public Institutions	16	Ding Residence ⁶ , Huiyin Garden, Quanjin Guildhall, etc.
	Department of housing management	Department of housing management	18	Hanchong Residence, Zheng Residence, Zhu Residence, etc.
	Enterprises and Public Institutions+ Department of housing management	Enterprises and Public Institutions+ Department of housing management	1	Panzuyin Residence
Privately-owned	Individual	Individual	6	Yang Residence, Zha Residence, etc.
Publicly and Privately Owned	Enterprise and Public Institutions+ Individual	Enterprise and Public Institutions	1	Xushichunhui Yizhuang
	Department of housing management+ Individual	Department of housing management	18	Aibuchan Residence, Qian Residence. Etc.
	Enterprises and Public Institutions+ Department of housing management+ Individual	Enterprises and Public Institutions+ Department of housing management	3	Weidaoguanqian Pan Residence, Hongjun Residence and Zhuangci

According to the actual situation surveyed, the hypothesis model should be expanded. There are three forms of property rights in this model: publicly owned, privately owned and publicly & privately owned. Among them, the public property rights are respectively owned by the Housing Administration Bureau, Public Institutions, and jointly owned by the Housing Administration Bureau and Public Institutions. Private property rights remain unchanged, that is, private property owners. The public and private ownership are respectively owned by Housing Administration Bureau and the private property owner, jointly owned by Public Institution and the private property owner, and jointly owned by Housing Administration Bureau, Public Institution and the private property owners.

5.3 Reasons for Unclear Property Rights

In order to establish an effective governance model for historical buildings conservation, the form of property right has been clarified in the investigation stage, and then the relationship between different transformation modes and property rights needs to be found. Before that, the following problems need to be solved: the formation of confusion status of property rights. Only knowing the reason behind it, then we can solve the problem of urban renewal thoroughly.

5.3.1 Historical Factor

Several stages of the evolution of property rights in China are described below.

1. Before 1949

Before the founding of the People's Republic of China, the property rights of houses were extremely chaotic, mainly owing to the imperfect property rights registration system of the Kuomintang authorities. Years of war led to the flight of property rights holders, and large numbers of properties were vacant and unmanaged for long periods of time, illegally seized, and so on.

2. From 1949 to 1956: Clean-up of real estate property rights during the early period of the regime of the new People's Republic of China

Following the victory of the Anti-Japanese War, the new government implemented a series of measures to register housing property rights and issued housing ownership certificates to clarify housing property rights and quickly establish regular social order. Before the socialist transformation, domestic real estate was divided into public and private property. Among them, public property (including escrow properties without owners converted into public property after the expiration of the escrow), which was mainly taken by the government, was divided into three parts, namely, directly managed public housing (houses directly managed by the municipal housing management authority in the name of the municipal people's government), institutional self-managed public housing (houses managed by institutions with rights of possession, use, profit, and disposal of buildings, as well as an obligation to protect state property from loss and infringement), and allotted public housing (housing property approved for use by the government or housing authority, with institutions only given the right to use the building without ownership).

Time	Events	Change of Property Rights		
1949	The founding of PRC	Private house	Vacant house	
1958	Socialist Reformation	Private house	Rental house	Public house
1966	Cultural Revolution	Public house		
1980s	Partially returned	Private house	Public & Private house	Public house

Figure 7 Timeline for changes in property rights (summarised by the authors)

3. From 1956 to 1966: Large numbers of private rental houses converted into ‘rental houses’

On January 18, 1956, the secretariat of the Central Committee of the Communist Party of China submitted Opinions on the Current Basic Situation of Urban Private Property and the Socialist Transformation, thereby suggesting that the socialist transformation of urban private houses be carried out and privately rented houses in cities that meet the starting point of the transformation by the nation, or so-called ‘rental houses’, be implemented (Liu, 2011). The publication proposed that ‘The overall requirement for the socialist transformation of private houses was to strengthen the state control, first of all, to let private houses rent completely subject to the state policy, and then gradually change its ownership’. Local governments introduced corresponding policies to specify the starting point of the quantitative reconstruction. Private homeowners were recommended to divide their living area by population, with surplus areas classified as ‘rental houses’, which were rented to residents with housing difficulties (Liu, 2011). On December 30, 1963, the State Administration of Real Estate stated in its Report on Issue of the Socialist Transformation of Private Rental Housing that ‘private homeowners could not recover the houses which already rented by the state’. At the time, the property rights structure appeared in three forms, namely, public property, private property, and rental houses. Rental houses are products of the socialist transformation. Former private homeowners could no longer retrieve their property, but the state had not clearly defined the ownership of property. During the Cultural Revolution in 1966, the red guards forcibly seized the property rights of private

homeowners through violent means. All houses had one property rights attribute, that is, state ownership (Liu, 2011).

4. From 1983 to 2004: Implementation of private housing policy and resolution of the problem of ‘standard houses’

After the Cultural Revolution, the government implemented the private housing policy and returned the property rights of private houses to private homeowners. However, the government claimed that the property rights of ‘rental houses’ belong to the state and implementing the private housing policy is not challenging (Hua, 2009; Liu, 2011).

From the 1980s, historic houses became private properties and rental houses. However, the most dramatic difference during the 1950s was that the property rights of ‘rental houses’ changed from being private to public property, thereby becoming part of the directly managed public housing, which is the existing most complex property rights structure in China.

In summary, the structure of real estate property rights was extremely complex in 1949 and the new government then issued a series of measures in an attempt to clarify it. However, the original problem of property rights during the Cultural Revolution was not clarified and was worsened by the political struggle.

After the reform and opening up in 1980s, the government attempted to readdress the problem, but failed to achieve the desired effect owing to insufficient implementation. Since the 1980s, China has entered the stage of large-scale civil construction. In the process of the demolition and reconstruction of old cities, removal and relocation have become significant problems for the government, and the drawbacks of the unclear

property rights structure have become apparent. However, no one has been willing to tackle such sensitive topics, and the government and academia have prevaricated with ‘problems left over by history’, claiming that ‘property rights are too complex’ to be resolved. Although the awareness of the protection of traditional culture has increased since 2000 and the government has invested large amounts of capital to preserve and renovate historical blocks, property rights problems remain between the ideal and reality, thereby severely delaying the pace of urban renewal. The property rights issue affects the entire process of urban development and cannot be avoided. Therefore, the issue, that is, the existing complex property rights structure in China, should be addressed and resolved with sound theoretical basis.

5.3.2 Legal Factor

To protect outstanding traditional architecture, the government implemented the Law of the People’s Republic of China on the Protection of Cultural Relics in 1982. Historical buildings were classified as national, provincial, and municipal cultural relic protection units according to their historical, cultural, and artistic value. In addition, local governments established protection lists for outstanding historical buildings excluded from cultural relic protection units, such as the Excellent Historical buildings in Shanghai, the Excellent Modern Buildings in Beijing, the Historic Feature Buildings in Xiamen, and the Controlled and Protected Buildings in Suzhou (Cai, 2007; Zhu et al., 2008). However, the original complex property rights problem worsened when the

cultural relic labels were added to the buildings (Hua, 2009).

Article 5 of the Law of the People's Republic of China on the Protection of Cultural Relics stipulates that for all memorial buildings, historical buildings, and cultural relics publicly or privately owned, ownership is under the protection of national laws, and the owners of these cultural relics must abide by the regulations of the country on cultural relic protection and management. In addition, the law stipulates that buildings owned by the state protected as cultural relics cannot be sold on the market (Shi & Zhou, 2010). The property rights of these buildings are redefined by national laws; that is, residents and users only have usage rights. The buildings are publicly owned and the local government represents the state in terms of supervision and control. Given the feature described above, an intersection between these two types of property rights emerges when historical buildings are listed as cultural relics, thereby making it difficult to determine and obtain rights to yields derived from ownership (Adams & Hastings, 2001). The value form cannot be separated from the value entity. Therefore, defining the boundary of property rights is difficult, as it is obscure in an actual operation.

In addition to unclear property rights, inappropriate property rights modes can damage historical buildings. Certain historical buildings are public houses with property rights under the direct administration of the government. The majority of such buildings are overused, endure exposure to wind and rain, and incur degrees of damage that are extremely high. Therefore, maintenance expenses are considerably large, and residents have no incentive to contribute to the maintenance of such buildings. Article 6, Chapter 1 of the Law of the People's Republic of China on the Protection of Cultural Relics

stipulates that expenses for cultural relic protection and management shall be included in the financial budget of the central and local government; that is, the government should arrange the protection and management of historical resident houses and fund their repair and protection. Although residents are not required to make contributions, they can enjoy the benefits. In such cases, historic houses repaired with government funds can be regarded as public articles and thus enjoyed by residents free of charge. Therefore, people ignore the protection of historical buildings, as they can enjoy the benefits without assuming responsibility. To maximise such benefits, residents may overuse or damage buildings under controlled protection. Conflicts between the use and maintenance of historical buildings will result in conflict between the government's invalid investment in such buildings and residents' overconsumption.

Therefore, currently, historical buildings that suffer from the most severe damages are historical buildings whose property rights belong to the state. This problem is common in China. As the maintenance and upgrading of historical buildings require large amounts of financial and technical resources, the government's budget cannot satisfy this demand. Therefore, for such buildings, the government has maintained an attitude of 'not aspiring for the ownership but the existence', in order to transfer usage or property rights, activate and reuse historical buildings by cooperating with social forces, and extend the longevity of such buildings. In the case of complicated property rights, the clarification of property rights and adaptive reuse are problems that must be resolved.

5.4 Causes of Changes in Property Rights in Pingjiang Historic Block

5.4.1 External Causes

The majority of external reasons are influenced by policies from different eras. The timeline shows a series of changes. Figure 3 illustrates the timeline of the evolution of property ownership from 1949. In the early 1950s, every parcel of land in the country was registered, government authorities issued the Property Ownership Certificate (Figure 4), and the 1954 Constitution protected lands and houses.

In 1956, the government initiated the socialist transformation of industry and commerce. In the same year, the central government approved the ‘Basic Conditions of Private Property in the Cities’ and ‘Opinions on Initiating Socialist Transformation’. Moreover, private houses in these cities were subject to ‘transformation’. In 1958, the compulsory transformation of private property campaign emerged. The primary form was ‘lease by the country’, which meant that ‘the country will be responsible for the overall leasing, distribution and maintenance’, targeting certain privately leased houses and drawing a starting line for the transformation; that is, if a property leased by its owner ventured beyond the starting line, then it would be subject to transformation. The intended purpose of this policy was to ‘use the methods like purchase, which pays fixed rent during a certain period, to gradually change their ownership’. However, in practice, the government only collected compulsory rent from owners without purchase or similar activities, and ownership remained in the hands of owners with a Property Ownership Certificate. When the Cultural Revolution began in 1966, the red guards seized private

properties through violence and claimed ownership. According to Article X of the 1982 Constitution, urban lands shall be the property of the state. Between 1982 and 1988, the government cleared private properties on a massive scale, owners were granted Property Ownership Certificates, and the concept of land ceased to exist. However, according to residents, they lost ownership not only of their land, but also their houses.

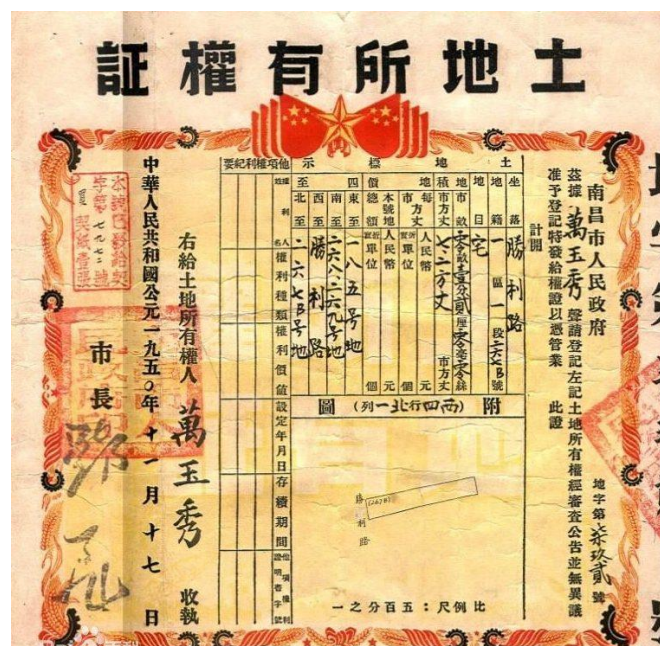


Figure 8 Property Ownership Certificate and Land Ownership Certificate (source: Hua, 2009)

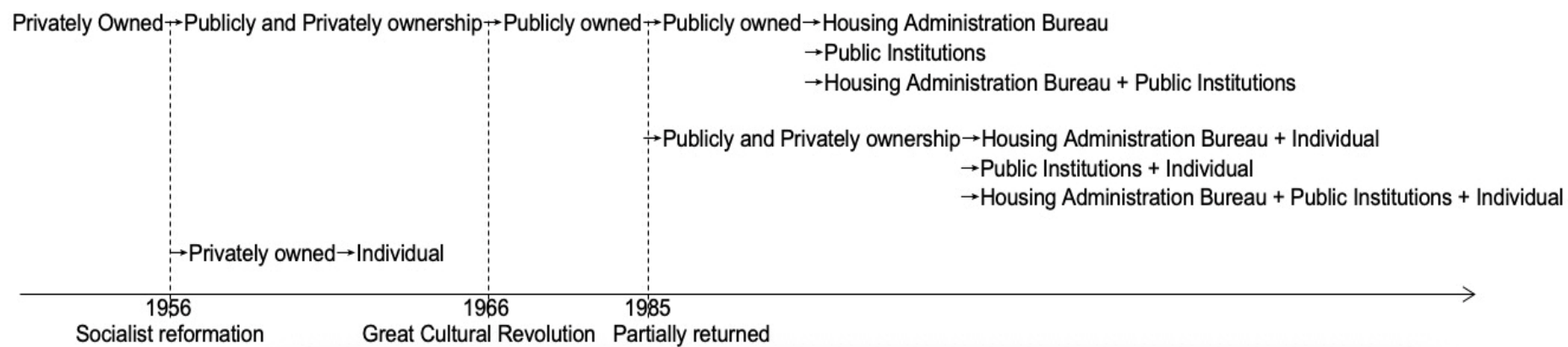


Figure 9 Timeline for changes in property rights in Pingjiang Historic Block (summarised by the authors)

5.4.2 Internal Causes

Internal causes include the residential function of houses entering the market as a commodity since the 1980s, thereby resulting in the circulation and transaction of property or usage rights, which can lead to a change of property rights, as shown in the figure below. Figure 6 presents a summary of the circulation pattern of properties in history according to market conditions. After the Cultural Revolution, numerous private houses transformed into directly controlled public houses under the ownership of the housing authority. In recent years, the number of low-income individuals gradually decreased. Therefore, residents of affordable housing disregard the value of houses and overuse them. To protect historical buildings, the government intends to recall the right to use such houses. In terms of ownership changes, properties are transferred to the government or private enterprises after purchase and primarily consist of public-interest and commercial houses. The circulation of property rights mainly depends on the government's redemption and is relocated through the transfer of property rights or currency.

The actual situation is also different from the information provided from government authorities.

Figure 11 illustrates the timeline of the change of property ownership since the founding of the People's Republic of China. In the early 1950s, all lands in the country were registered. Government authorities issued a Property Ownership Certificate, and lands and houses were protected by the 1954 Constitution.

In 1956, the government initiated the socialist transformation of industry and commerce, including factories and shops. Joint state–private ownership was first proposed, and was followed by ‘Peaceful Purchase’ on the basis of asset and capital verification. The purchase period was 20 years. During this period, private owners would receive a fixed interest. In the same year, the central government approved the Basic Conditions of Private Property in the Cities and Opinions on Initiating Socialist Transformation, and private houses in these cities were subject to ‘transformation’.

In 1958, the campaign of compulsory transformation of private property was implemented. The primary form was ‘Lease by the Country’, which meant ‘the country will be responsible for the overall leasing, distribution and maintenance’. The campaign targeted privately leased houses and proposed the beginning date for the transformation; that is, if the lease period went beyond the starting line, then it would be subject to transformation. The intended purpose was to ‘use the methods like purchase, which pays fixed rent during a certain period, to gradually change their ownership’. However, in practice, the government only compulsorily collected rent from owners without any purchase or similar activities. Ownership remained in the hands of the owners who had the Property Ownership Certificate. When the Cultural Revolution broke out in 1966, the red guards took over these private properties by force and claimed ownership. According to Article X of the 1982 Constitution, urban lands shall be in the ownership of the state. Between 1982 and 1988, the government cleared up private properties on a massive scale. Owners were granted a Property Ownership Certificate, but the concept of land did not exist anymore.

Figure 12 describes the changes of private property ownership. Combined with the timeline in Figure 11, we now have seven different types of ownership. Pingjiang Historical Street includes all seven types of ownership, which has great value for research.

Figure 13 shows the summary of the circulation pattern of properties in history according to market conditions. Directly controlled public houses belong to public properties, which are under the ownership of the housing authority. Ownership can be changed in two ways: internal recycle and external recycle. Under ownership changes in the external recycle, properties are transferred to the government or enterprises because of purchase and primarily consist of public-interest houses and commercial houses. Under the internal recycle, ownership remains unchanged, and properties will be leased to another party by the transfer of right to use. In addition, the grey recycle refers to the black market.

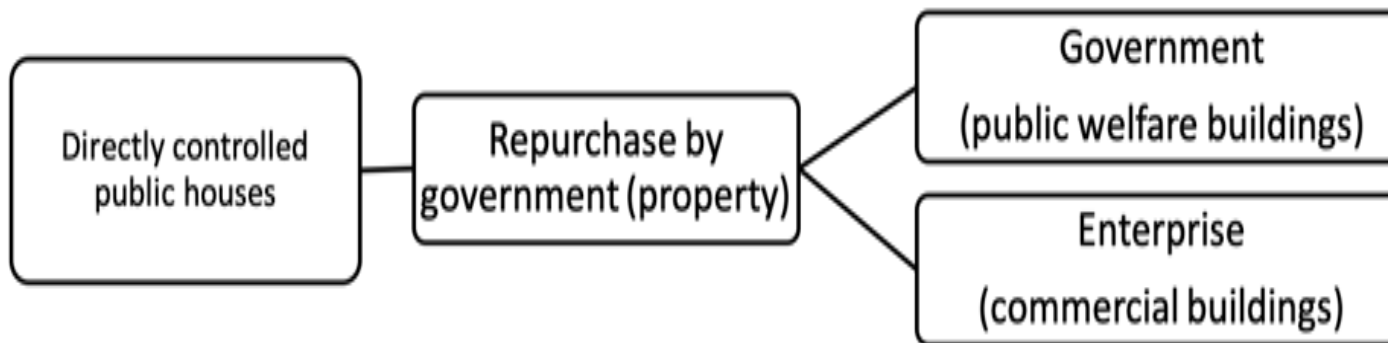


Figure 10 Circulation of property rights of historical buildings

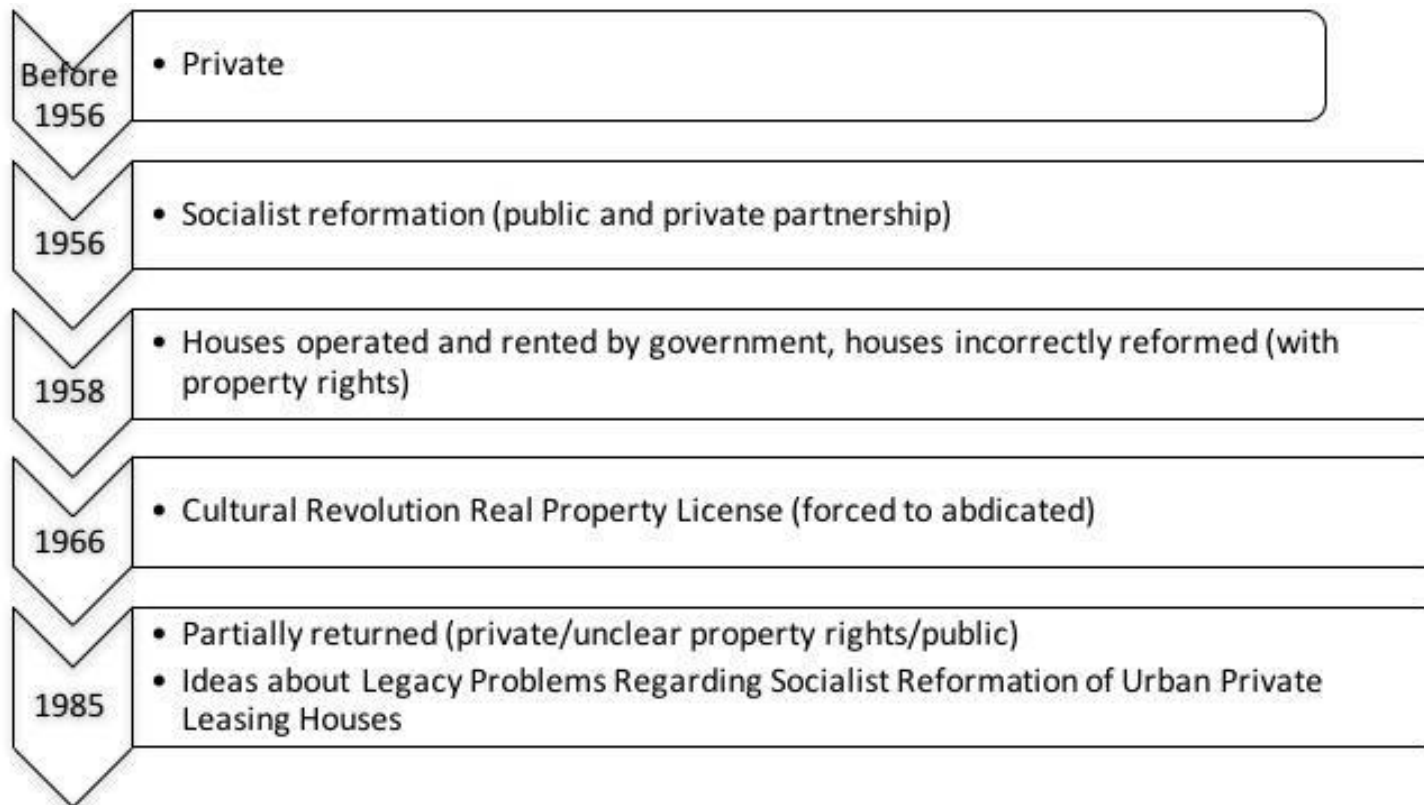


Figure 11 Timeline for Change of Property Rights

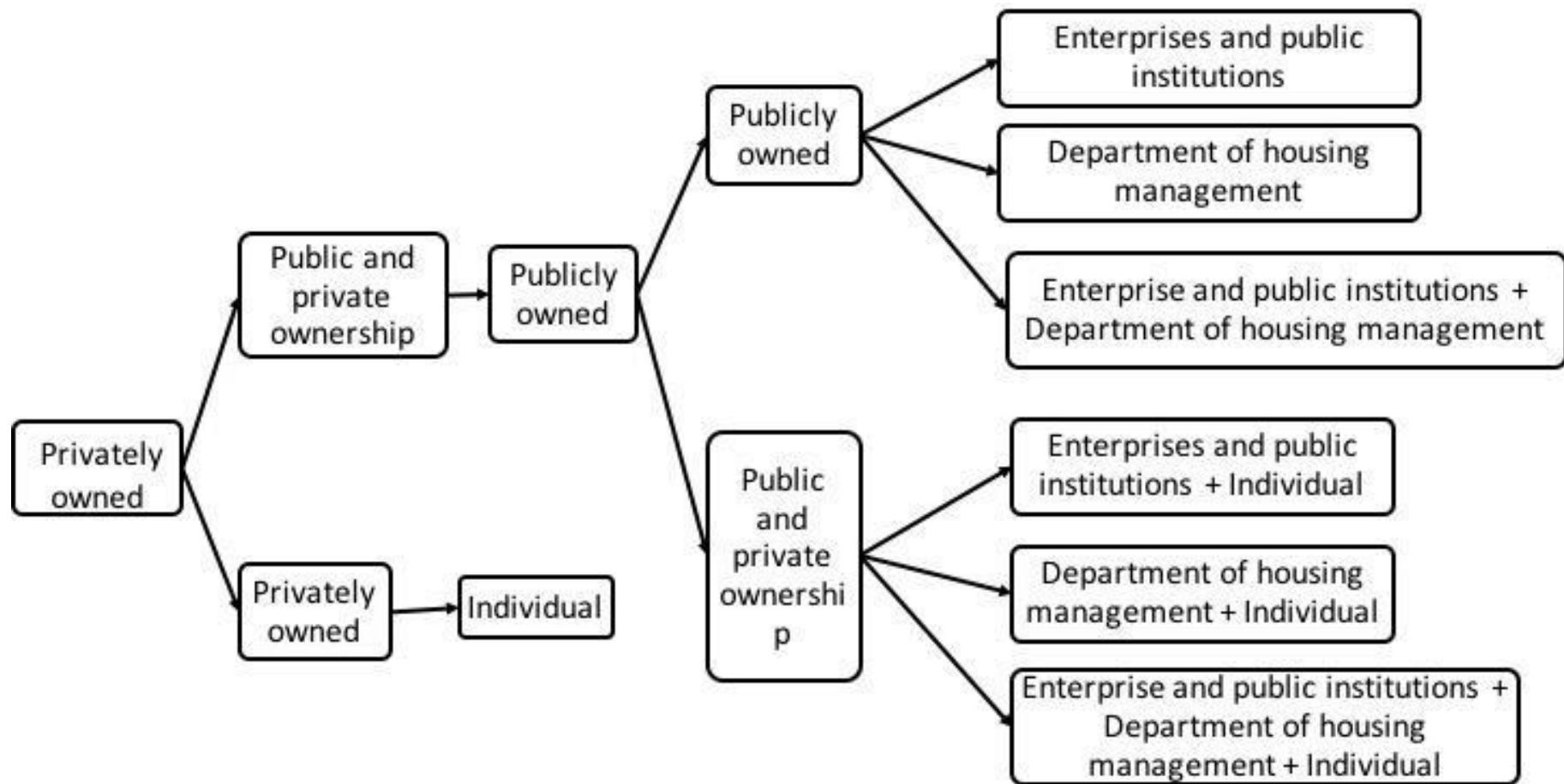


Figure 12 Change of property rights

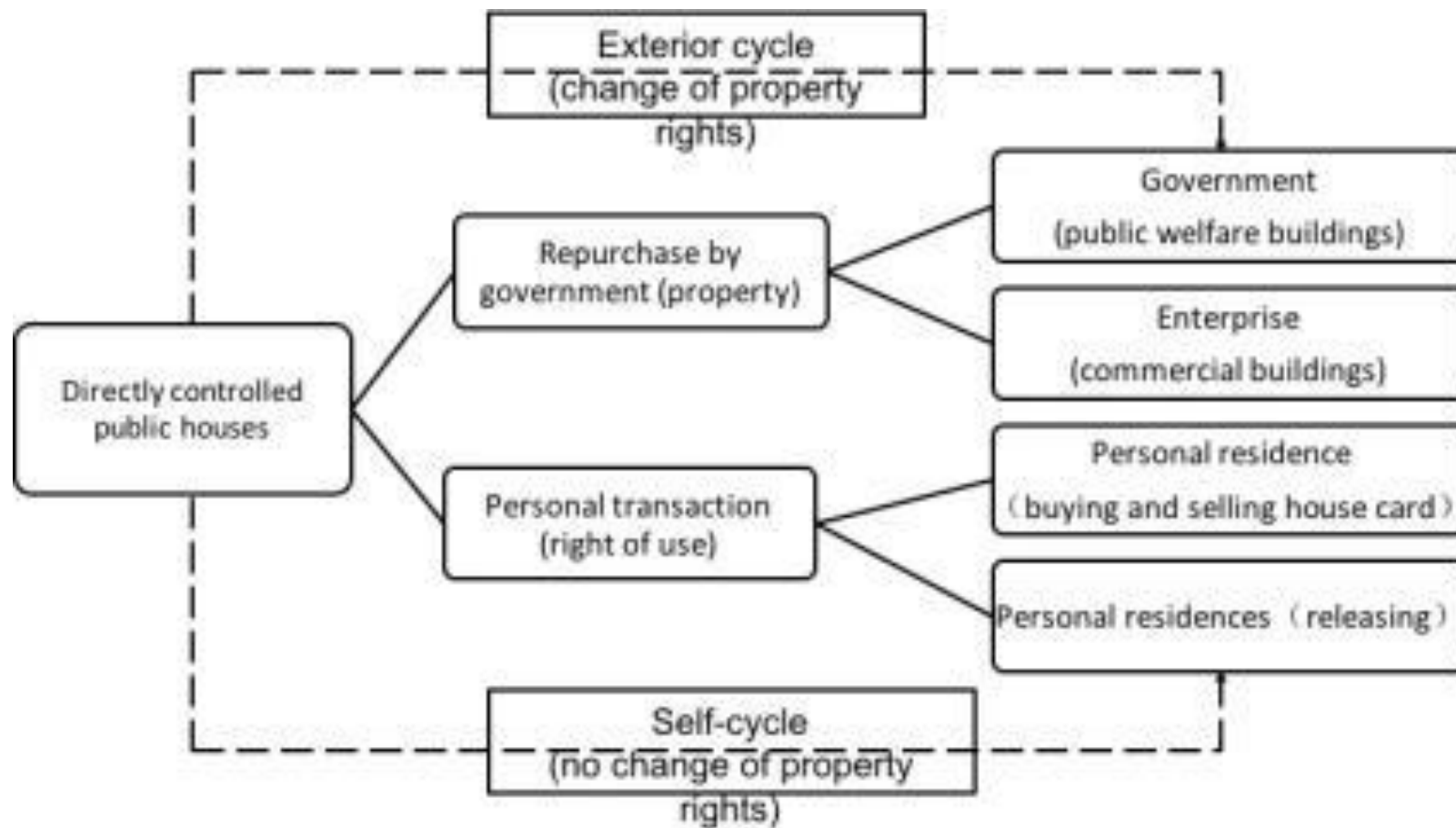


Figure 13 Model of Circulation of Historic Construction of Contemporary Time

Note: grey cycle: underground transaction

5.5 Survey Results of AHP

5.5.1 Data Processing

As discussed before, according to Historic Urban Landscape, 56 sub-factors under these four main factors and 20 factors are selected which relate to this research. Some authorities and institutions' criterion, factors and frameworks are considered in the process of identifying factors.

In the first-round interview, 4 experts scored each criterion on a scale of 1 to 5. The results are showed in Table 9. 11 most important factors are selected to the second-round interview in Table 10.

The second-round interview, the AHP Questionnaire has been considered three situations as Public-owned, Private-owned and Public & Private-owned. 30 experts scored these factors. Table 11-13 show the results of the weight value of different factors.

Table 9 Analysis of the importance between different factors

	Expert 1	Expert 2	Expert 3	Expert 4	\bar{X}	
Factor 1	5	5	5	5	5.00	√
Factor 2	5	5	5	5	5.00	√
Factor 3	4	5	4	5	4.50	√
Factor 4	4	4	4	3	3.75	
Factor 5	4	5	2	3	3.50	
Factor 6	5	3	3	4	3.75	
Factor 7	3	3	3	3	3	
Factor 8	3	2	2	2	2.25	
Factor 9	4	4	4	5	4.25	√
Factor 10	4	4	4	3	3.75	
Factor 11	3	4	4	5	4.00	√
Factor 12	5	5	5	4	4.75	√
Factor 13	4	4	4	4	4.00	√
Factor 14	3	2	3	4	3.00	
Factor 15	4	4	4	3	3.75	
Factor 16	5	4	4	5	4.00	√
Factor 17	3	3	4	3	3.25	
Factor 18	5	5	5	5	5.00	√
Factor 19	3	4	5	3	3.75	
Factor 20	4	4	4	5	4.25	√
Factor 21	3	2	3	4	3.00	
Factor 22	5	3	5	4	4.25	√

Table 10 Analysis of the importance between different factors

Question	Aspects	Factors
Factors influenced historical block reconstruction	Regulatory	Factor 1 Legislative and regulatory measures
		Factor 2 Government policy and attention
		Factor3 Policy implementation and monitoring
	Civic	Factor 9 Residents' willing
	Engagement	Factor 11 Support from experts and institutions
	Knowledge and Planning	Factor 12 Integrity and authenticity
		Factor 13 Cultural significance and diversity
		Factor 16 Urban Environment and Planning
	Financial	Factor 18 Property Rights
		Factor 20 Appropriate forms of funding
		Factor 22 Models of partnerships

5.5.2 Analysis of the importance between different factors

A. Public-owned

Comparison between different main factors

	Regulatory	Civic Engagement	Knowledge and planning	Financial
Regulatory	1	7	5	3
Civic Engagement	0.1428571	1	0.3333333	0.2
Knowledge and planning	0.2	3	1	0.1428571
Financial	0.3333333	5	7	1

Results of AHP (Main factors)				
Factors	Feature vector	Weight value	Maximum eigenvalue	CI
Regulatory	2.1	52.497%	4.357	0.119
Civic Engagement	0.219	5.469%		
Knowledge and planning	0.415	10.368%		
Financial	1.267	31.666%		

Comparison between different sub-factors under main factor **Regulatory**

	Legislative and regulatory measures	Government policy and attention	Policy implementation and monitoring
Legislative and regulatory measures	1	0.3333333	5
Government policy and attention	3	1	7
Policy implementation and monitoring	0.2	0.1428571	1

Results of AHP (sub-factors under Regulatory)				
Factors	Feature vector	Weight value	Maximum eigenvalue	CI
Legislative and regulatory measures	0.849	28.284%	3.066	0.033
Government policy and attention	1.93	64.339%		
Policy implementation and monitoring	0.221	7.377%		

Comparison between different sub-factors under main factor **Civic Engagement**

	Residents' willing	Support from experts and institutions
Residents' willing	1	3
Support from experts and institutions	0.3333333	1

Results of AHP (sub-factors under Civic Engagement)				
Factors	Feature vector	Weight value	Maximum eigenvalue	CI
Residents' willing	1.5	75.000%	2	0
Support from experts and institutions	0.5	25.00%		

Comparison between different sub-factors under main factor **Knowledge and Planning**

	Integrity and authenticity of urban heritage	Cultural significance and diversity	Urban Environment and Planning
Integrity and authenticity of urban heritage	1	3	7
Cultural significance and diversity	0.333333	1	5
Urban Environment and Planning	0.142857	0.2	1

Results of AHP (sub-factors under Knowledge and Planning)				
Factors	Feature vector	Weight value	Maximum eigenvalue	CI
Integrity and authenticity of urban heritage	1.93	64.339%	3.066	0.033
Cultural significance and diversity	0.849	28.284%		
Urban Environment and Planning	0.221	7.377%		

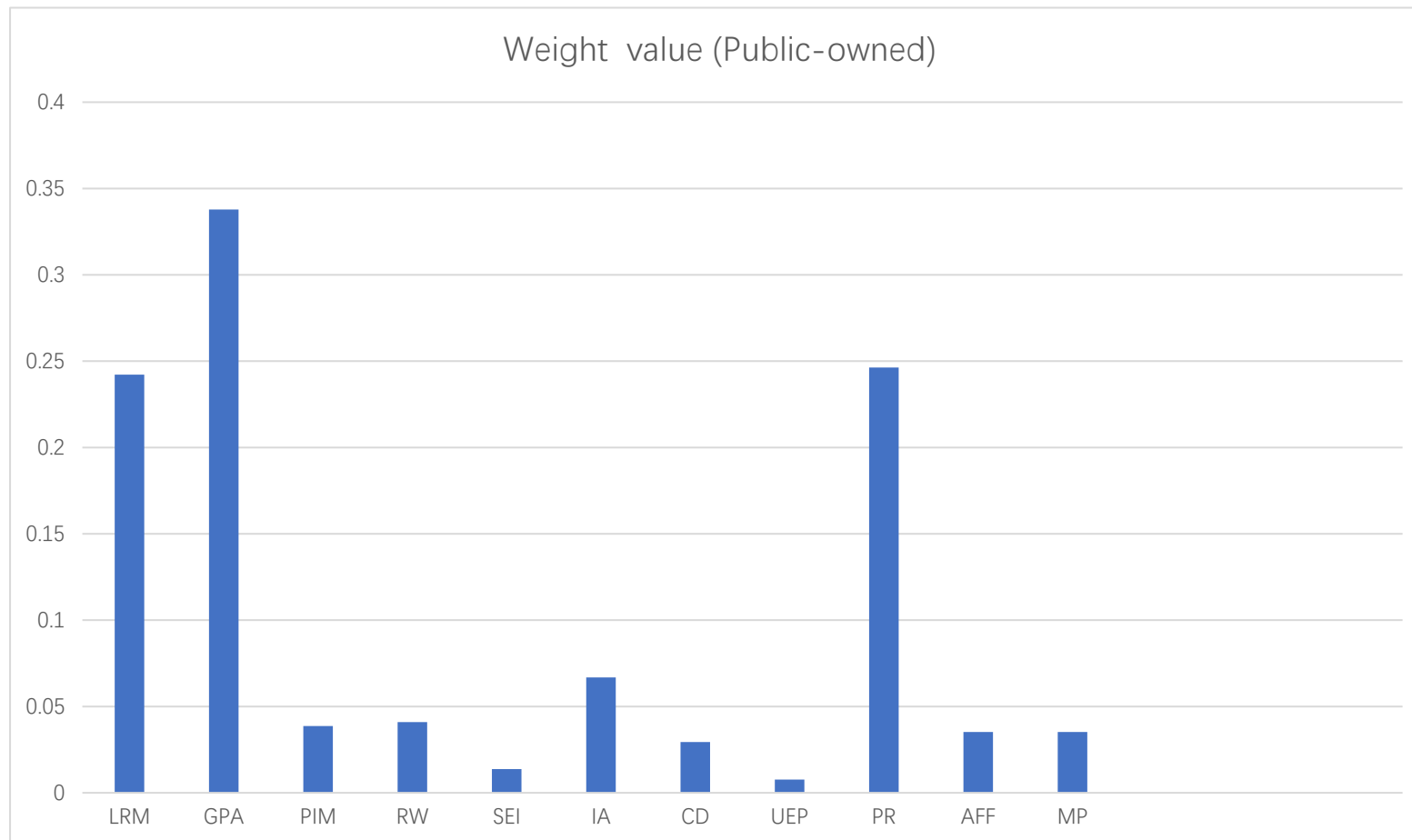
Comparison between different sub-factors under main factor **Financial**

	Property Rights	Appropriate forms of funding	A variety of models of partnerships
Property Rights	1	7	7
Appropriate forms of funding	0.1428571	1	1
A variety of models of partnerships	0.1428571	1	1

Results of AHP (sub-factors under Financial)				
Factors	Feature vector	Weight value	Maximum eigenvalue	CI
Property Rights	2.333	77.778%	3	0
Appropriate forms of funding	0.333	11.111%		
A variety of models of partnerships	0.333	11.111%		

Table 11 Results of the weight value (all of the sub-factors under main factors)

	R	CE	KP	F	W _i
	0.5250	0.0547	0.1039	0.3167	
LRM	0.2828				0.2422
GPA	0.6434				0.3378
PIM	0.0738				0.0387
RW		0.7500			0.0410
SEI		0.2500			0.0137
IA			0.6434		0.0668
CD			0.2828		0.0294
UEP			0.0738		0.0077
PR				0.7778	0.2463
AFF				0.1111	0.0352
MP				0.1111	0.0352



B. Private-owned

Comparison between different main factors

	Regulatory	Civic Engagement	Knowledge and planning	Financial
Regulatory	1	3	5	0.3333333
Civic Engagement	0.3333333	1	5	1
Knowledge and planning	0.2	0.2	1	0.1428571
Financial	3	1	7	1

Results of AHP (Main factors)				
Factors	Feature vector	Weight value	Maximum eigenvalue	CI
Regulatory	1.21	30.248%	4.456	0.152
Civic Engagement	0.947	23.687%		
Knowledge and planning	0.196	4.896%		
Financial	1.647	41.170%		

Comparison between different sub-factors under main factor **Regulatory**

	Legislative and regulatory measures	Government policy and attention	Policy implementation and monitoring
Legislative and regulatory measures	1	0.3333333	5
Government policy and attention	3	1	7
Policy implementation and monitoring	0.2	0.1428571	1

Results of AHP (sub-factors under Regulatory)				
Factors	Feature vector	Weight value	Maximum eigenvalue	CI
Legislative and regulatory measures	0.849	28.284%	3.066	0.033
Government policy and attention	1.93	64.339%		
Policy implementation and monitoring	0.221	7.377%		

Comparison between different sub-factors under main factor **Civic Engagement**

	Residents' willing	Support from experts and institutions
Residents' willing	1	9
Support from experts and institutions	0.1111111	1

Results of AHP (sub-factors under Civic Engagement)				
Factors	Feature vector	Weight value	Maximum eigenvalue	CI
Residents' willing	1.8	90.000%	2	0
Support from experts and institutions	0.2	10.000%		

Comparison between different sub-factors under main factor **Knowledge and Planning**

	Integrity and authenticity of urban heritage	Cultural significance and diversity	Urban Environment and Planning
Integrity and authenticity of urban heritage	1	3	7
Cultural significance and diversity	0.3333333	1	5
Urban Environment and Planning	0.1428571	0.2	1

Results of AHP (sub-factors under Knowledge and Planning)				
Factors	Feature vector	Weight value	Maximum eigenvalue	CI
Integrity and authenticity of urban heritage	1.93	64.339%	3.066	0.033
Cultural significance and diversity	0.849	28.284%		
Urban Environment and Planning	0.221	7.377%		

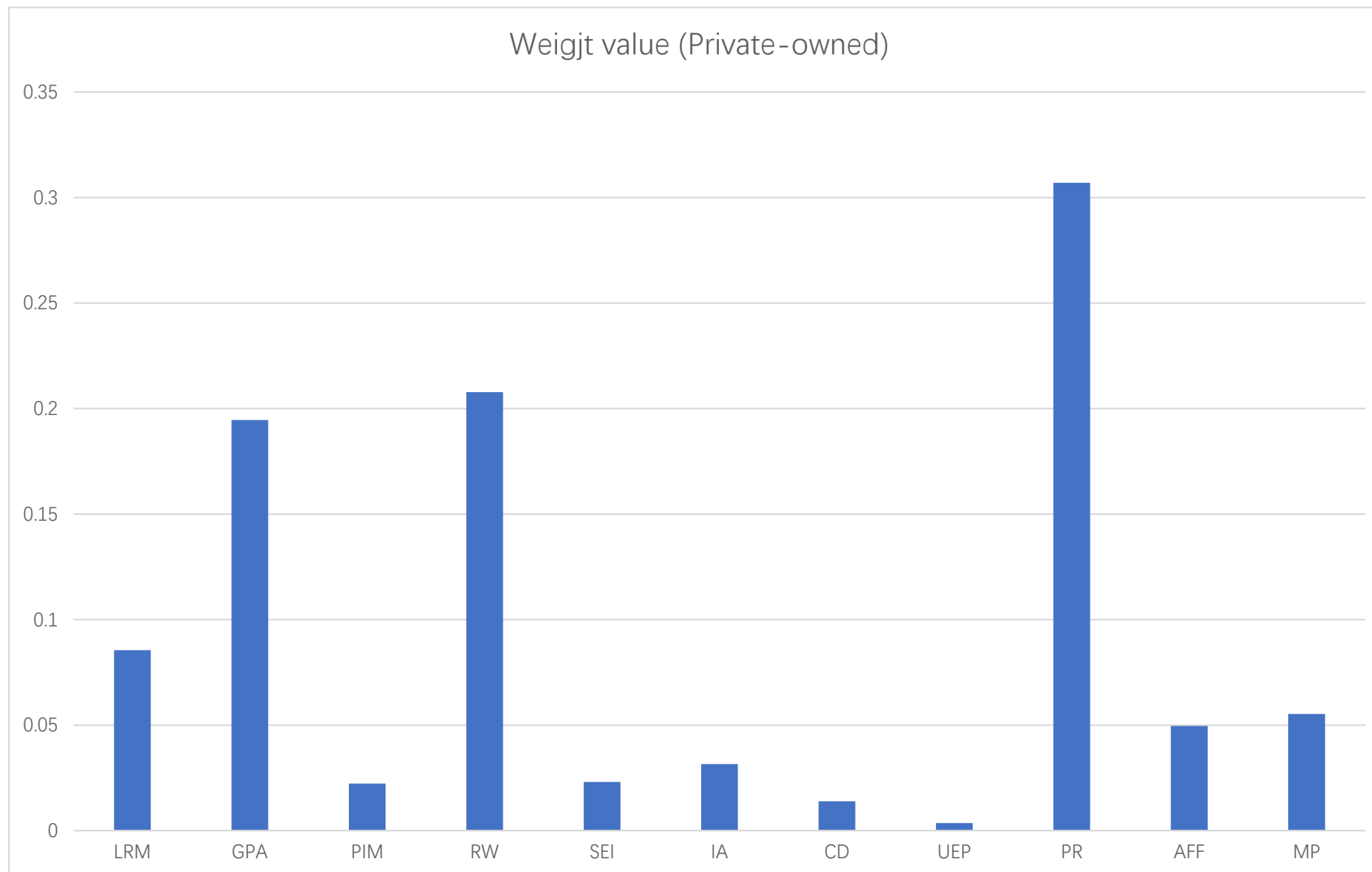
Comparison between different sub-factors under main factor **Financial**

	Property Rights	Appropriate forms of funding	A variety of models of partnerships
Property Rights	1	7	5
Appropriate forms of funding	0.1428571	1	1
A variety of models of partnerships	0.2	1	1

Results of AHP (sub-factors under Financial)				
Factors	Feature vector	Weight value	Maximum eigenvalue	CI
Property Rights	2.237	74.558%	3.013	0.006
Appropriate forms of funding	0.36	12.012%		
A variety of models of partnerships	0.403	13.430%		

Table 12 Results of the weight value (all of the sub-factors under main factors)

	R	CE	KP	F	W_i
	0.3025	0.2309	0.0490	0.4117	
LRM	0.2828				0.0855
GPA	0.6434				0.1946
PIM	0.0738				0.0223
RW		0.9000			0.2078
SEI		0.1000			0.0231
IA			0.6434		0.0315
CD			0.2828		0.0139
UEP			0.0738		0.0036
PR				0.7458	0.3070
AFF				0.1201	0.0496
MP				0.1343	0.0553



C. Public & Private-owned

Comparison between different main factors

	Regulatory	Civic Engagement	Knowledge and planning	Financial
Regulatory	1	5	7	3
Civic Engagement	0.2	1	3	1
Knowledge and planning	0.1428571	0.3333333	1	5
Financial	0.3333333	1	0.2	1

Results of AHP (Main factors)				
Factors	Feature vector	Weight value	Maximum eigenvalue	CI
Regulatory	2.203	55.085%	5.101	0.367
Civic Engagement	0.624	15.588%		
Knowledge and planning	0.72	17.999%		
Financial	0.453	11.327%		

Comparison between different sub-factors under main factor **Regulatory**

	Legislative and regulatory measures	Government policy and attention	Policy implementation and monitoring
Legislative and regulatory measures	1	0.3333333	5
Government policy and attention	3	1	7
Policy implementation and monitoring	0.2	0.1428571	1

Results of AHP (sub-factors under Regulatory)				
Factors	Feature vector	Weight value	Maximum eigenvalue	CI
Legislative and regulatory measures	0.849	28.284%	3.066	0.033
Government policy and attention	1.93	64.339%		
Policy implementation and monitoring	0.221	7.377%		

Comparison between different sub-factors under main factor **Civic Engagement**

	Residents' willing	Support from experts and institutions
Residents' willing	1	0.333333
Support from experts and institutions	3	1

Results of AHP (sub-factors under Civic Engagement)				
Factors	Feature vector	Weight value	Maximum eigenvalue	CI
Residents' willing	0.5	25.000%	2	0
Support from experts and institutions	1.5	75.00%		

Comparison between different sub-factors under main factor **Knowledge and Planning**

	Integrity and authenticity of urban heritage	Cultural significance and diversity	Urban Environment and Planning
Integrity and authenticity of urban heritage	1	3	7
Cultural significance and diversity	0.3333333	1	5
Urban Environment and Planning	0.1428571	0.2	1

Results of AHP (sub-factors under Knowledge and Planning)				
Factors	Feature vector	Weight value	Maximum eigenvalue	CI
Integrity and authenticity of urban heritage	1.93	64.339%	3.066	0.033
Cultural significance and diversity	0.849	28.284%		
Urban Environment and Planning	0.221	7.377%		

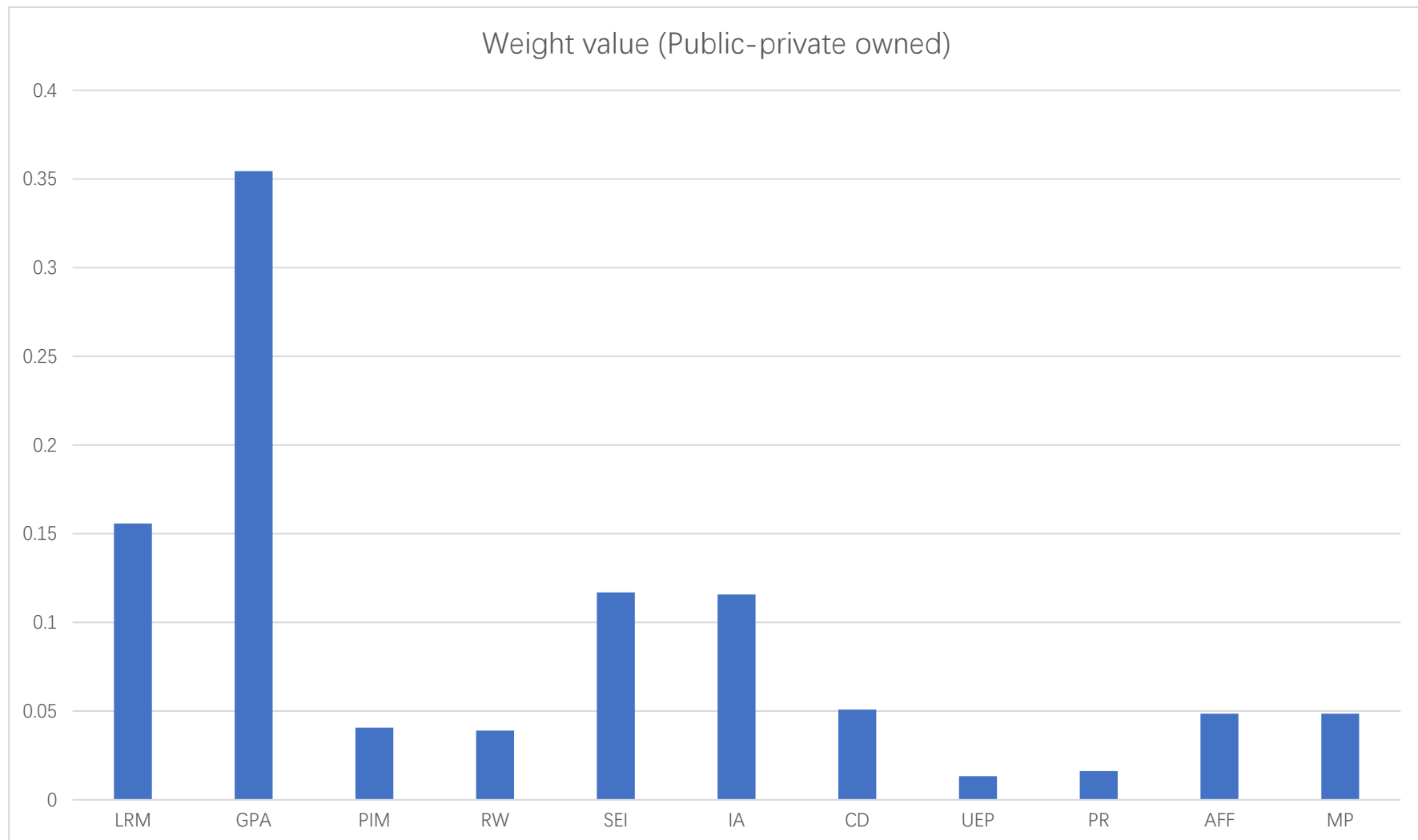
Comparison between different sub-factors under main factor **Financial**

	Property Rights	Appropriate forms of funding	A variety of models of partnerships
Property Rights	1	0.3333333	0.3333333
Appropriate forms of funding	3	1	1
A variety of models of partnerships	3	1	1

Results of AHP (sub-factors under Financial)				
Factors	Feature vector	Weight value	Maximum eigenvalue	CI
Property Rights	0.429	14.286%	3	0
Appropriate forms of funding	1.286	42.857%		
A variety of models of partnerships	1.286	42.857%		

Table 13 Results of the weight value (all of the sub-factors under main factors)

	R	CE	KP	F	W _i
	0.5509	0.1559	0.1800	0.1133	
LRM	0.2828				0.1558
GPA	0.6434				0.3544
PIM	0.0738				0.0407
RW		0.2500			0.0390
SEI		0.7500			0.1169
IA			0.6434		0.1158
CD			0.2828		0.0509
UEP			0.0738		0.0133
PR				0.1429	0.0162
AFF				0.4286	0.0486
MP				0.4286	0.0486



From the above results, it can be seen that property right is still one of the decisive factors whether historical buildings can be transformed or not. Especially when the property right is private, the residents' willing is very important. The governance method should respect the willing of private property owners. It coincides with Coase Theorem. But whether property rights are public or private, experts invariably give importance to Factor 1 Legislative and regulatory measures and Factor 2 Government policy and attention. The governance method of historic blocks is affected by the policy. From another aspect, it proves the author's extension of Coase Theorem again, that is, the state is a big company. When architecture gets enough attention, capital and technology come accordingly. Property rights can be replaced by transaction. The residents who only have the usage right can be relocated in advance.

Chapter 6 Case Study

6.1 Background of Former Residence of PAN Zuyin

The research examines the protection of historic cities from the perspective of property rights and financing mode. The literature review shows that the research on the historical ancient city basically follows the research order of point, line and plate. The historical ancient city is composed of historical blocks, which are the settlements of countless historical buildings, historical structures and other historical elements, such as material and intangible cultural heritage. Common historical structures in China, such as ancient bridges and wells, and historical features, such as old trees, are publicly owned and managed by corresponding government departments, which has not become an obstacle to protecting historic cities. However, the protection of historical buildings is seriously hindered due to the confusion of property rights and the lack of funds.

In the expert interview, the government staff and experts and the front-line professional personnel in the protection and renovation of historical blocks and historical buildings all reflect that the difficulty in the protection of historic cities still lies in the property right and financing mode of historical buildings. In short, there is no property right and no money.

In the early stage of the transformation, the transformation of Pan Zuyin's former residence was seriously hindered by the problem of property rights. After years of effort, people have successfully solved the problem of property rights and the problem of funds,

so it is a case worthy of study.

Suzhou is the country's only historical and cultural city demonstration area, the only one in China. It is the most representative and research-worthy city selected from China's 138 historical and cultural cities. Pingjiang Road is the first batch of famous historical and cultural streets in the country. The former residence of Pan Zuyin is one of the first historical buildings on this street to be included in the list of the first batch of Suzhou Municipal Government's ancient buildings and old houses to be protected and repaired. This also reflects the representativeness of Pan Zuyin's former residence from the side. The property right model of Pan Zuyin's former residence has experienced private ownership, mixed public ownership, and all public ownership. Its use has changed from private residences to factories and affordable housing to ancient residences under the protection and management of the Cultural Tourism Group. Finally, through the government's renovation, the original appearance and craftsmanship of the original building were preserved entirely, making it a building with both a business model and a display function. This financing and renovation model is also worthy of reference for other buildings. Representativeness and reference significance are the two reasons why I chose Pan Zuyin's former residence.

The following part is the process of the reconstruction of Pan Zuyin's former residence. The former residence of PAN Zuyin, which is located at No. 5–10, Nanshizi Street and No. 12, Yingxiao Alley in Pingjiang Historic Quarter, is No. 91 of the controlled and protected buildings. The residence covers an area of approximately 4,570 m², facing south with the design of three rows and five lines. This ancient housing belonged to

PAN Zuyin, the third scholar of the Qing Dynasty with a history of more than 200 years.

The building has rich historical value, cultural value and artistic value with the broad foundation and accumulation of traditional Chinese architectural skills. The historic building was under a good condition when it belonged to the private owner.

According to the external and internal causes mentioned before, in the early days of the founding of the People's Republic of China, the owner of the house, PAN Dayu, donated the house to the country. The East Row (including the garden) and Middle Row were successively used for a sheet factory and its guest house and discarded for a long time. The other half was used for public houses for residence of more than 50 households.

The pattern of three rows and five lines have been maintained, and the original historical layout and architecture are preserved. Owing to the different property rights, the fate of the East and Middle Row and the West Row in the same building are entirely different.

6.2 Renovation Work

Currently, Pingjiang Historic Block presents a single linear development pattern, which lacks permeability towards surrounding roadways. Tourists mainly visit along the single path of Pingjiang Road. Hence, they cannot easily experience the unique space with streets and alleys crisscrossing, which results in the shortage of economical driving force in the block. Major private buildings are arbitrarily established, and infrastructures are incomplete and in bad repair, which have resulted in potential safety

hazard and the increasingly severe sign of decay. Thus, functionally discarded old houses form the area with the highest development potential in this block. By transforming the single linear development pattern into a dendritic one, with multidimensional permeation of roadways and small bridges, the development of the whole area will be promoted. Such undertaking will add economic value to the entire historic quarter while maintaining the overall scenery. Thus, implantation of the new function becomes a requirement. The Suzhou government launched the ‘Protection and Restoration of Historic Buildings Projects’ in 2012, and the former Residence of PAN Zuyin was included in the first phase of this project.

6.2.1 East & Middle Rows

After the private owner donated the historic building to the government, the East Row and Middle Row were used as a sheet factory. The ownership and rights to use belonged to the government. The local government and Suzhou Culture and Tourism Development Group set up a jointly funded company named Suzhou Ancient City Investment and Construction Co., Ltd. The transformation process was smooth.

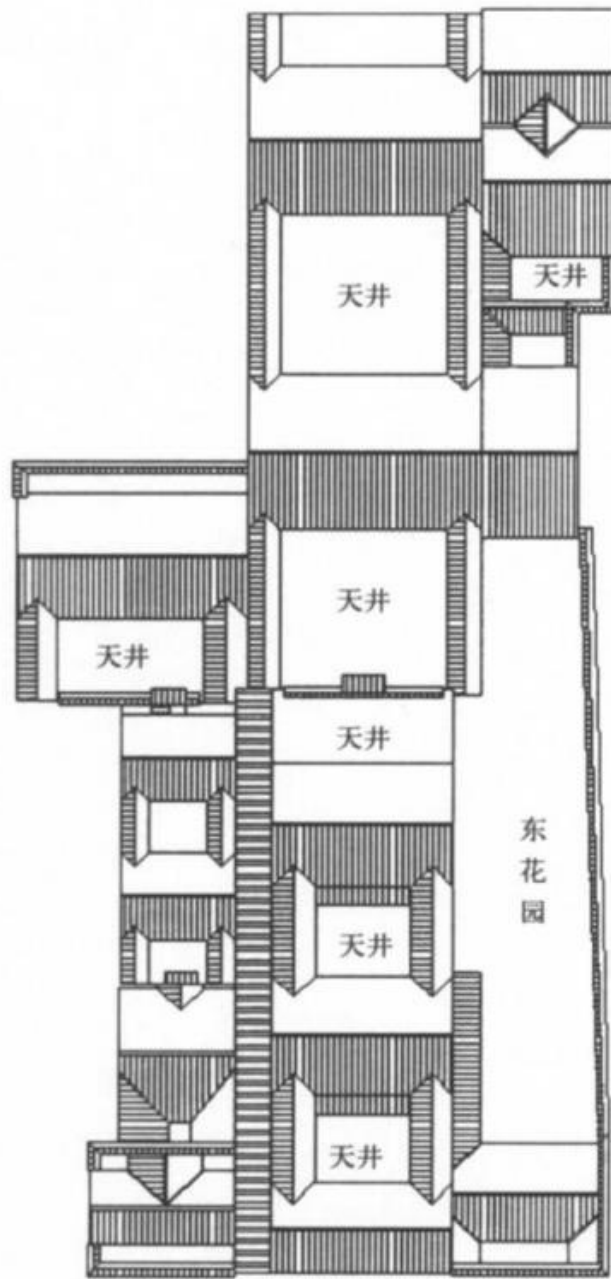


Figure 14 Floor Plan of Plan of Former Residence of PAN Zuyin (Source: Yuan Zong, 2006)



Figure 15 Pictures of Blossom Hill after Renovation (sources: photos taken by the Authors in 2015)

At the beginning of the design process, the function of this adaptive reuse project has been clearly defined as a cultural boutique hotel. The East Row and Middle Row were designed as the public area and guest rooms of the hotel. The renovation was strictly modelled on the basis of CHEN Congzhou's mapping, drawing and photos that he took of the former residence of PAN Zuyin. The hotel was constructed using traditional technology, and it follows the principle of restoring the old and preserving authenticity. Focusing on the principle of protection and recycling, and combining with practical functions in the future, modern technology is embedded into the device, equipment and materials. For example, complete firefighting apparatus, modern ground-source heat pump systems and insulating and energy-saving materials have been integrated in the construction. They were put into use in 2013.

6.2.2 West Row

According to the design plan, 14 guest rooms of different sizes were added in the West Row. To date, the project remains stalled because of the unclear property right. As explained before, the West Row is used as public housing with more than 50 households. Many unforeseen issues are involved in the government's measures. For example, the right to use was divided and distributed to more than 50 households. However, as long as someone is unwilling to surrender the right to use, the reconstruction work cannot be carried out.

Renovation work is complicated. Such cases are common in China where cities are

continuously developing. To redeem the usage right of historic buildings from the household, the government issued a red-headed document, ‘Announcement of the Suzhou Municipal People’s Government on the Determination of Houses on State-owned Lands’ (Su Fu Gong [2013] No. 3), which is the housing compensation plan of PAN Zuyin’s former residence project:

‘The expropriated person may choose monetary compensation or exchange property rights. The expropriated households who choose the monetary compensation can purchase the fixed-quotas commercial houses provided by the government. If the property rights exchange is chosen, the value of the property exchange houses and the expropriated houses will be calculated after the price is calculated at the same evaluation point, and the difference is settled’.

Under monetary compensation in house expropriation compensation, the owner of an expropriated house is compensated in monetary form in accordance with the market evaluation price. Property rights exchange means the exchange of houses provided by the house expropriation department for the transfer of property rights and the houses to be confiscated.

Two types can be chosen for resettlement housing. The first one is property rights exchange house, in which the project provides residential property rights exchange houses. An example is Hui Cui Homeland with an area of approximately 200 m². The second one is fixed-quota commercial housing. The fixed-quota commercial housing provided by this project is high-rise residential building in Wang Jia Dun (11 sets, approximately 800 m²). If any change occurs in the expropriation process, then it can

be adjusted according to the actual situation. The sale price of the fixed-quota commercial housing is RMB 8,300/m² (excluding the floor difference).

Different relocation incentive fees can be obtained depending on the degree of cooperation by residents within the signing period stipulated in the housing expropriation compensation plan and the first reward period stipulated by the expropriated person in the housing expropriation department. If the contract is signed and relocation is completed, then a reward of RMB 20,000 will be given within the second reward period stipulated by the expropriated person in the housing expropriation department. If the contract is signed and the relocation is completed, a reward of RMB 10,000 will be given. During the specified signing period, expropriated households who relocated and submitted the inspections after the contract is signed will be rewarded with RMB 83,000.

In the interview, some residents said, 'I don't have the property rights of this historic building; the government gave me the right to use...I don't want to cooperate with the relocation because I feel that the compensation is too low'. However, facing such a generous demolition clause, the relocation has not yet been completed, and the renovation work has been stagnant.

For residents with public property rights who are not cooperating with the relocation, measures can be taken such as restricting the tenure limitation and household registration to cancel the function of historic buildings as indemnificatory housing year by year.

In the case of Pingjiang Historic Block, the result of the survey shows that unclear

property rights seriously hinder urban renewal. Indemnificatory housing is a product of a special period and will disappear. Among the 63 historical buildings in the Pingjiang Historical Block, 86% remain functional, whereas a majority are used for indemnification housing, with low-income citizens applying to live in them. However, historical architecture possesses not only use value, but also cultural and historical values. The use of historical buildings for affordable housing is a remarkable waste of traditional culture. Moreover, the lack of economic strength and weak awareness of protection on the part of the residents can aggravate damages to historical buildings. For such cases, the government can restrict tenure limitation and household registration to withhold the usage of historical buildings as housing from residents. For residents with public property rights who fail to cooperate with the relocation, measures can be taken to cancel the function of historical buildings as indemnification housing.

During the process of sustainable urban development, it is necessary to retain the artistic and historical value and the use function of traditional architecture. Experiential reconstruction will become the trend in future historical building protection. Historical architecture is a carrier of traditional culture, the epitome of ancient city styles, and the symbol of urban development. With the awakening of the awareness of the protection of traditional culture, an increasing number of historical buildings have been opened to the public. However, as a museum alone cannot meet people's needs, the experiential transformation will become a trend. Like the case of Former Residence of PAN Zuyin, the building not only opens the living function but also the traditional way of life. This way is trendy in the market. Such reconstruction has the function of "hematopoiesis",

which solves the problem of the shortage of funds for the protection of historic buildings. The revitalization and protection of such buildings will undoubtedly be the future trend. For the obstacles caused by property rights, the reconstruction project can be gradually carried out according to the unique layout of historical buildings as in the case. This transformation model is worth promoting in other cities.



Figure 16 Pictures of the west row Figure (sources: photos taken by the Authors in 2018)

6.3 Some other Cases

Except for Suzhou, the author also selects two other cities for comparative research. The two cities are Fuzhou and Chengdu, two famous historical and cultural cities in China. The two cities are respectively located in economically developed coastal areas and economically underdeveloped inland areas.

6.3.1 Shangxiahang in Fuzhou

Shangxiahang, located in the urban area of Fuzhou, was the commercial center and shipping terminal as early as the Ming and Qing Dynasties. It is an international commercial port written by Marco Polo, with a history of hundreds of years. According to the interview with local residents, the historical buildings in shangxiahang have also experienced the same fate as Pingjiang road.

In the early days of the founding of the people's Republic of China, many houses with private property rights were taken into public ownership. There are affordable housing as a living function and public welfare housing as well. When the property right is clear, the building has been better protected. In the recent transformation, they have chances to be repaired. However, the buildings with unknown property rights are gradually dilapidated due to the destruction of time and unclear responsibilities and rights. Here, take Luoshihenghe Bank, No. 90 Xiahang Road, as an example.

The house was rented by the Luo's family to the handicraft industry administration in the 1950s and then transferred to Fuzhou No. 8 plastic factory. The owner of the property right is inconsistent with the owner of the use right, resulting in the inability of the building to be reasonably repaired after the relocation of the plant site. Most of the decoration has been destroyed, and only a few structures and frames can be seen.



Figure 17 Pictures of No. 90 Xiahang Road (sources:Fuzhouzhiliao, 2019)



Figure 18 Pictures of No. 90 Xiahang Road (sources: photo taken by the Authors in 2021)

It is understood that the descendants of Luoshi who are still in Fuzhou have applied for the protection of this old building, hoping to take back the rented old house for protection and proper disposal after the lease term expires. When the property right is clarified, the house can also be protected by a clear owner. Now the building has been fenced, and the exhibition will be presented in the follow-up research.

At the stage of expert interview, some practitioners said that the transformation project of shangxiahang has experienced phased stagnation, and the biggest problem is the shortage of funds. The participation of private property owners can be regarded as a good solution to protect their buildings through self-financing.

6.3.2 Huaxiba and Mengzhuiwan in Chengdu

The old city transformation mode in Chengdu is called EPC+O. The government invests in the reconstruction of old blocks according to the project and its economic conditions. This model is equivalent to the government outsourcing to developers for transformation. The government gives developers a certain degree of operational freedom for secondary sublease. But in the operation stage, due to the second sublease and transfer of the right to use, it led to excessive use and the loss of state-owned assets, so the government forcibly withdrew the right to use.

Moreover, in the transformation process, if the property right belongs to the old house of the government, it is relatively easy to transform. Still, when the property right belongs to individuals, the cooperation degree of residents is low, and the transformation progress is difficult to promote. In the interview with the residents from Huaxiba, it can be found that few people has acceptance of the transformation of the facade. The progress of the reconstruction project, which depends on the government's

financial situation, is precarious—no return on investment, no sustainability.

Mengzhuiwan, another old street, has the same dilemma.



Figure 19 Pictures of Mengzhuiwan (sources: photo taken by the Authors in 2021)

Chapter 7 Discussion

7.1 Discussion on Coase Theorem applied in the Heritage Conservation

Coase's view involves a key word or a factor of production and a problem to be solved, i.e. resource redistribution. In the field of urban renewal, historical buildings have multiple attributes. As cultural relics, historical buildings have very high historical and artistic values, so professional people are needed to maintain these buildings through professional means; as houses, they have residential functions, but houses are dilapidated and entail high maintenance costs, which are hard for residents to bear. Whether to protect them as cultural relics or to continue to serve as houses is the redistribution of production factors in urban renewal. When the ownership is fragmented it will bring many constraints. Taking back the usage right and unified planning by the state is more conducive to the preservation of historical buildings (Adams & Hastings, 2001).

Indeed, historical and artistic values cannot be copied and reconstructed as opposed to the dispensable residential function. The government is a super enterprise, which can control production factors via administrative means (Lai & Lorne, 2015). The government also plays such a role in urban renewal (Lai et al, 2018). For the protection of cultural relics, the government should promulgate compulsory regulations to restrict the behaviour of users whether property rights are publicly or privately owned; under

the protection of the law, the use function should be considered. When property rights are public, the government has the right to take back the house and optimally allocate resources. While retaining the artistic and historical value and the use function of traditional architecture, the government can protect the historical buildings according to the public and market demand. Through policy adjustment, the government can expand the market of historical buildings (Lai & Lorne, 2015). Experiential reconstruction will become the trend in future historical building protection. This type of reconstruction resembles 'haematopoiesis', which can also solve the problem of a shortage of funds for the protection of historical buildings. For houses with use functions belonging to residents, when a property right is clear and the transaction cost is relatively low, the government hopes to control the decision-making power of the housing function. Residents who live here are willing to move out after they receive satisfactory compensation, given that they do not have the property rights of historical buildings and cannot afford high maintenance costs. Generally, the compensation they get is much higher than the value of the house because the high-value properties tend to be overcompensated (Munch, 1976). Therefore, those who have no property rights but only the right to use them are willing to cooperate with the government. Even the nail households just want to haggle over the compensation rather than move out. Once an agreement is reached, the government can take back the property rights.

However, when property rights are private, property owners know that permanent private property rights are scarce resources. The property owners have the exclusive right to alienate or to not alienate the buildings (Lai, 2014). In addition, they have lived

in their own houses for generations and are not willing to hand them over to the state easily. In their minds, transaction price is very expensive. The government only plays a supervisory role and does not pay high relocation fees, thereby forcing property owners to protect their houses.

With due reference to key points of Coase Theorem highlighted in the above sections: Theoretical Framework, when these rights belong to the same subject, the owner has initiative and motivation to protect and maintain a historical building effectively. The research results substantiate the authors' view as proposed in the beginning. For example, during the survey, privately owned buildings, such as the Fang residence on Xuan Qiao Alley, were in a satisfactory condition. Private owners have lived here for generations. However, when the right to use is transferred, ensuring that the user will seriously protect the historical building is difficult. As shown in Figure 7, the property rights system has continuously changed since 1958. Therefore, defining the rights and responsibilities of parties is challenging. Residents only possess the right to use a historical building and thus lack a cultural identity and sense of belongingness. They have no enthusiasm to maintain the 'public house', but hope to obtain tangible benefits from its demolition. The rent of such houses is too low to afford maintenance costs. These housings are dilapidated suffering from the daylighting and dampness for years. There are various safety hazards in the house with a danger of collapse at any time. Meanwhile, the Housing Management Department, which has right of ownership, also lacks sufficient funds to protect historical buildings. 'Rental houses' and 'public houses' suffer from damages or are destroyed, similar to the Xu residence.

Moreover, when the government attempts to recall right to use, large numbers of residents become unwilling to move out. The term ‘nail households’ refer to people who refuse to move out of buildings for demolition, often owing to disagreements about compensation, which severely delays the progress of the redevelopment process. The DeLin Hall Wu residence is an example of such a case, which was delayed for five years. In the above case, the non-zero-sum game between residents is a typical prisoner's dilemma model. Some people are willing to move out early and get rewards and resettlement houses. However, some nail-house holders are willing to get more compensation. The personal best choice is not the group best choice. In the face of interests, the relationship between people has become subtle. While competing for interests, they also have selfish desires to get more. In a group, individuals making rational choices often lead to collective irrationality.

Through interviews with developers and contractors of many projects, it is understood that property rights and funds are common problems in all current historical building reconstruction projects. The biggest uncertainty in funds is the demolition compensation, and the contractor has overcome the difficulties which can't be overcome by traditional crafts.

For the 10 pilot projects of the first batch of ancient building protection and repair projects in Suzhou, some ancient building abandoned the reconstruction, and some projects were promoted. The whole project has progressed very smoothly if all tenants accept the reconstruction, such as the former Fang Residence, the current Xiao Hui Wang Art Centre; the projects that all the residents refused to relocate, such as private

property owners or projects with proper building maintenance and living environment. The government gave up the relocation and allocated funds for the optimisation of living conditions, from the reconstruction project to the people's livelihood project. For the vast majority of projects, some residents coordinate with the relocation and some residents refuse. Demolition was repeated in each process and the betrayal and cooperation between households, and the Nash equilibrium gradually became Pareto Optimality. That is, in this situation, no property right owners or residents can be better off without making at least one individual worse off (Coase, 1960). It is considered as a minimal notion of efficiency that does not necessarily result in a socially desirable distribution of resources (Hastings & Adams, 2005; Lai & Lorne, 2015). Although this is not the optimal solution, it is the only way to solve the property right problem of historical building adaptive reuse.

Such cases can be seen everywhere in China where cities are developed constantly, such as this red-headed document, *Announcement of the Suzhou Municipal People's Government on the Determination of Houses on State-Owned Lands* (Su Fu Gong [2013] No. 3), which is the housing compensation plan of PAN Zuyin's former residence (a historical building in Pingjiang Historic Block) project:

'The expropriated person may choose monetary compensation or exchange property rights. The expropriated households who choose the monetary compensation can purchase the fixed-quotas commercial houses provided by the government. If the property rights exchange is chosen, the value of the property exchange houses and the expropriated houses will be calculated after the price is calculated at the same

evaluation point, and the difference is settled.'

Among them, (1) monetary compensation means that in the house expropriation compensation, the owner of the expropriated house is compensated in monetary form based on the market evaluation price. (2) Property rights exchange means the exchange of houses provided by the house expropriation department for the exchange of property rights and the houses to be expropriated. After the price is calculated, the difference is settled. For the residents who cooperate with the relocation, different relocation incentive fees can be obtained depending on the degree of cooperation.

The literature search shows that the problems of Chinese historical buildings, such as confusion of property rights, shortage of funds, lack of technology and so on, are a common problem. Such problems occur not only in Pan Zuyin's former residence, but also in other historical buildings in Suzhou, and even other historic cities in China.

In order to find the causes of the problem, the author conducted on-site visits and interviews with the property owners and users of historical buildings. The discovery of the reasons leading to the evolution of property rights is not an isolated case. The time nodes are very consistent. They are caused by national policies and are very universal. In the preliminary investigation, it has been found that the problem of Pan Zuyin's former residence also appeared in other buildings in the historic district of Pingjiang Road. When found such a situation, the author took another 1200-year-old Shantang Street in Suzhou as the research object, and found the same problem. After that, the author took this question to visit Sanfang Qixiang in Fujian, the famous historical and cultural street of Wukang Road in Shanghai, the Southern Song Dynasty Imperial Street

in Hangzhou, and Dongguan Street in Yangzhou. This situation has also occurred in other cities, such as Shangxiahang in Fujian. Because some property rights are too confusing, Xiahang Street is still in a state of stagnation. Enning Road in Guangzhou is hindering the progress of the relocation due to property rights issues. Nowadays, the awareness of protecting historical buildings has been awakened, but the problems caused by property rights and funds in the transformation process are still endless.

7.2 Discussion on the Governance Model of Heritage Conservation

Through the above analysis, the model can be optimised as shown in Figure 17. It is consistent with the hypothesis model that privately owned historical buildings are still protected and repaired by private property owners. In order to protect the interests of the private property owners, the private parts of the public-private ownership buildings still belong to the private property owner, and the buildings are maintained by the private property owner. Similarly, the Public Institutions shall be responsible for the management of the parts in public-private historical buildings and the public-private historical buildings that belong to them.

In this governance model, the most complicated parts belong to the Housing Administration Bureau, which is called direct management of public housing. Due to the historical reasons mentioned before, this type of housing rental to citizens with poor economic conditions. Local governments intend to take back the usage rights of these buildings gradually to avoid excessive use, through two ways, that is, property rights

replacement and monetary compensation. For a successful adaptive reuse project, two principles should be followed, that is, to obey the government's unified organisation and management, and follow the government's planning scheme and functional orientation.

The analysis shows that whenever a whole building is publicly owned, the transaction cost to the government is close to zero, and the government has the autonomy to renovate the building. Among the 35 public historical buildings in Pingjiang District, 20 of them have been renovated and are managed by the government, and seven are under renovation, accounting for 77% of effectively protected public historical buildings. Residents in the remaining eight buildings have expressed their desire to move away from the dilapidated buildings. They are willing to move to new homes if the government will give a satisfactory compensation. In addition, six buildings are owned by private individuals, accounting for 100% of private buildings. These private residents refuse to make deals with the government. Yet, the government is not willing to pay high fees to obtain the property rights of such houses. These types of property rights are distinctive, and thus, renovation or maintenance work should be carried out smoothly. However, the public-private ownership of property rights is complicated. A total of 22 historical buildings in Pingjiang Historic Block are public-private owned, and 14 of them (accounting for 64%) cannot be promoted for renovation. Five buildings have been transformed, and two are under renovation. However, from the perspective of renovation projects, several owners of private properties, including such buildings are willing to trade with the government, whereas the rest of them refuse. For private

property owners who refuse to trade, the government will transform public areas of their buildings. Private property owners can still reside in their own houses, but they have to take up the responsibility of routine maintenance of the historical buildings in the areas that they own. The government will help them with the exterior transformation. Without affecting the daily life of private property owners, the appearance of buildings with private property rights should be made consistent with that of public parts, resulting in consensus between landscape and art value. Such complex cases can be explored in detail in future studies. The 'bargain' mentioned by Coase also exists in the protection of historical buildings. In the process of repeated communication, the government and private owners can achieve the optimal allocation of resources. When both sides cannot agree on the price, they should arrive at a symbiosis to work together.

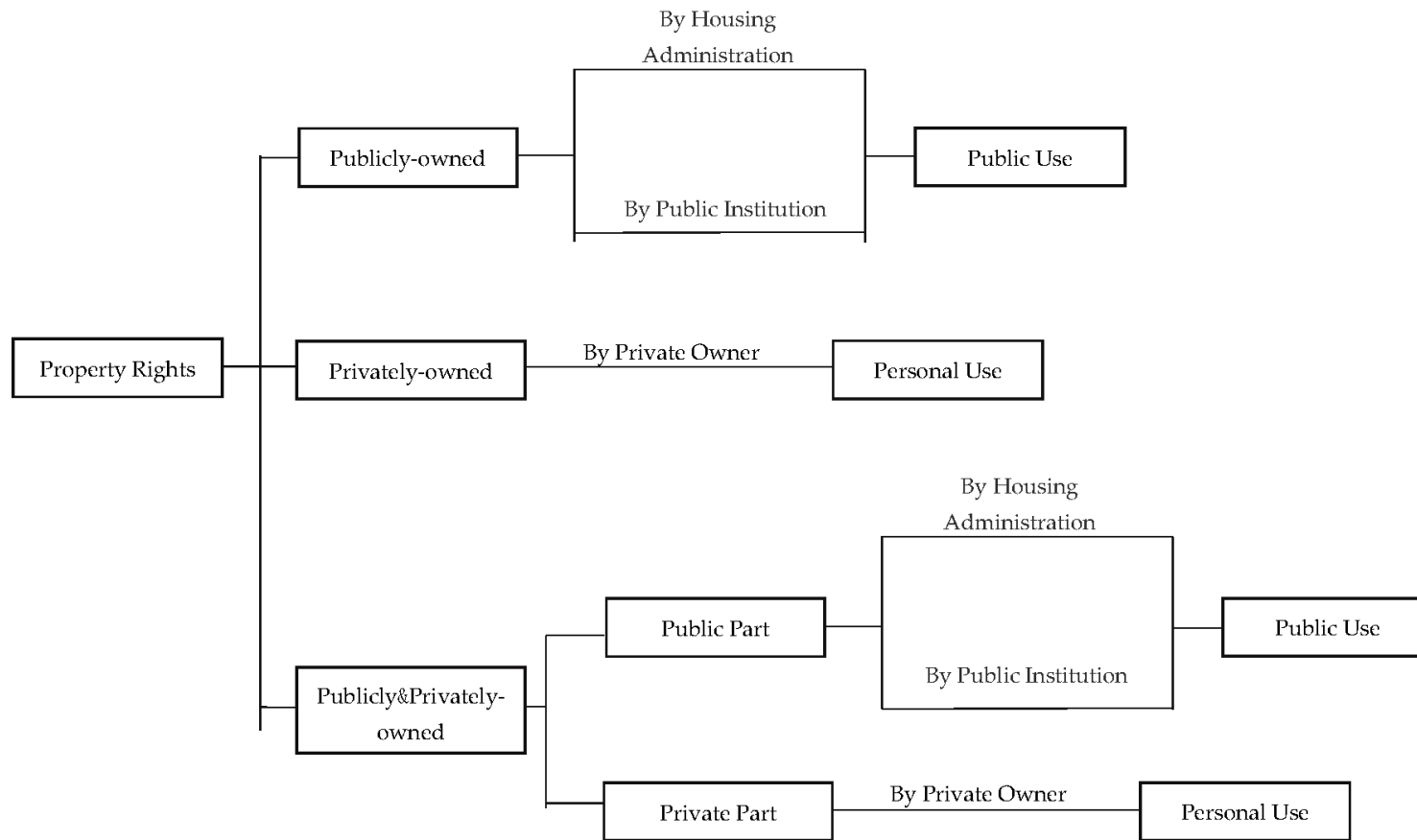


Figure 20 Governance Model for Historic Buildings Conservation in China

7.3 Discussion on the Relationship between Property and Financing Method

According to Stigler and Cheung, the first problem to be solved is to clarify the property rights in the protection of historical buildings. When the property rights are clear, the corresponding transformation and renewal methods can be found according to the property rights model so that the responsible party can be identified, and the financing method is clear.

a. When property rights are private, the owner of a private property, such as a historic building, protects it independently. The Pingjiang Historic District includes six private properties, all of which are managed by their respective owners. For example, the Residence of FANG on XuanQiao Alley, the descendants of the Fang family live and maintain the house.

b. When property rights are public, the subject of responsibility assumes two forms. When government departments or institutions have the usage rights of historic buildings, they are responsible for the protection of such buildings, such as Huiyin Garden. It is a classical garden build during the mid-Ming Dynasty and is now part of Suzhou No. 1 Junior High School. 'The school maintains the garden under the supervision of the Cultural Heritage Bureau according to the school staff. Similarly, Chang Zhou Xian Xue Da Cheng hall, as a Ming Dynasty building, is one of the buildings of another school. According to the official website of the school, after the deliberation and approval of the plenary meeting of the Suzhou National Historical and

Cultural City Protection Demonstration Zone Work Leading Group on December 30, 2015, the school invested 5.8 million in maintenance and repair of Dacheng Hall. On-site field investigations in recent years reveal that the school uses winter and summer vacations to renovate the exterior and reinforcement structure.

In the discussion of Coase theorem, the author clarifies a point of view that when the property rights of historical buildings is clear, the property rights and usage rights belong to the same responsible party or stakeholders, then the government plays a regulatory role. According to the survey results of Pingjiang Road, the above two situations confirm the correctness of this view.

c. The most complex cases involve historic buildings whose property rights are owned by the housing authority and usage rights are in the hands of residents. This type of historical buildings, dating back to the early days of the foundation of the People's Republic of China, is mostly private property. After the socialist transformation, some owners moved out of their original houses. The property rights of such historical buildings belonged to the state. The Housing Authority divided the houses into several small rooms and rented them out to the poor, so that the poor who had no residence could have shelter. The other part of private property owners handed over part of the property rights to the state and kept the rest. This situation demonstrates the public-private ownership model shown in the survey results. The content related to social equity fairness will not be elaborated here; only the ways how to protect the historical buildings with the existing property rights structure will be discussed.

As discussed before, the difficulty of the protection of the heritage route is increasing,

and the demand for funds and professionals is high. Single enterprises have been unable to meet its requirements. The state participates in this protection and transformation. However, to protect the normal operation of the market and normal economic activities, and ensure that state power is not overused, the government does not participate directly. In the case of Pingjiang Road, Suzhou Government State-owned Assets Supervision and Administration Commission established a subordinate enterprise, Suzhou Culture & Tourism Development Group. The company, as the main body of the operation and implementation of the ancient city protection builds an investment, financing and operation platform for heritage conservation, through government endorsement and long-term loans from the development bank. Compared with ordinary enterprises, financing is relatively smooth. As a subordinate enterprise of the government, it complies with the requirements of government policies, has a deeper understanding of national policies and strictly abides by them. Unlike profit-seeking companies, the state retained a controlling function due to the economies of scale. Secondly, with the support of the government, the group has its own planning team and a 12-member advisory expert committee. After the formation of the repair plan, it needs to be approved by the Cultural Relics Bureau, and the company implements it in strict accordance with the repair plan. After the repair, the Cultural Relics Bureau will check and accept it. This kind of enterprise mode achieves the relative balance of social effect and economic effect, and improves the cultural connotation of the historical district. In the renovation team of Pingjiang Historic District, Suzhou Urban Construction & Investment Development Co., Ltd. is also similar, which is actually controlled by SASAC.

Such a company can guarantee sufficient funds, strictly implement the planning requirements of the government and effectively prevent deviation from the original intention of renovation due to profit seeking. For example, the renovation of the former residence of PAN Zuyin lasted eight years, which involved relocation and resettlement. Ordinary companies cannot afford a long development cycle. Enterprises with a government background can also represent the government to provide residents with livelihood improvements, such as the DuanShan Hall PAN Residence. A private property owner has lived in the public-private ownership buildings for 50 years. She said that her family has lived here for eight generations. The government has negotiated with her many times and is willing to obtain her property rights through property rights replacement and monetary compensation'. The old woman refused the government's request and did not want to move out of her old house. The government fully respects her. During the renovation project, the company transforms the public part into a hotel, and renovates the passage and the design of the building for the private property holder. As a result, the private part of this historical building meets the requirements of the Planning Bureau.

Operating in the form of an enterprise has another advantage. The enterprise can consider operations overall. In the interview with the manager of SCTDG, he used the plate as an example. Their company has over 1,000 subordinate enterprises, which are involved in many businesses. The group puts profit into a plate and considers it to supplement projects that require substantial funds, such as historical building protection projects. Some projects make money, whereas others lose money. Under normal

circumstances, an enterprise project that loses money must be terminated. However, as a company controlled by the SASAC, they sometimes implement projects that are not profitable but meaningful and can benefit the public. It is the advantage of such kind of company. The successful case of Pingjiang Historic Block proves the feasibility of the ‘Suzhou Model’, which can be used for reference by many cities.

Chapter 8 Conclusions and Recommendations

8.1 Conclusions

This research selects the Pingjiang Historic Block, one of the heritage sites of the Grand Canal on the World Cultural List, as the research object and applies the Coase Theorem to the protection of historical buildings. Three important findings of this research must be highlighted. Firstly, the impact of property rights, that is, whether these rights are clear, affects the progress of a protection project. Secondly, the governance model of heritage conservation, that is, different property rights, leads to different renovation methods; thus, the most suitable financing mode corresponding to the established property rights must be determined. Thirdly, this research expands the application of the Coase theorem to practical cases and emphasises the positive role of the state in large-scale projects.

Property rights include three elements: right to use, right to profit, and right to transfer. According to the Coase Theorem, whether the property rights are clear will directly affect transaction costs. Take the transformation of Pingjiang Road as an example. The survey results show that unclear property rights seriously hinders the protection of historical buildings. Unclear property rights leads to unassumed responsibilities, a lack of investors willing to pay for the protection of historical buildings and a lack of persons responsible for maintaining and protecting historical buildings. Especially in the case of the Pingjiang Historic Block, the property rights of some historical buildings are

distinct from their usage rights; thus, property owners cannot regulate the behaviour of residents, and the excessive use of residents has accelerated the damage of historical buildings. Moreover, because unclear property rights hinders the transaction, the existence of nail households increases the financial or time cost in the early stages of reform. When the property rights are public, the government can transform it without paying transaction fees, which is very smooth. When the property rights are private, the owner of the private property rights requires high transaction fees and even refuses to trade. This type of building is directly not considered in the renovation. When the property rights are shared by public and private, users of historical buildings are unwilling to accept government compensation, and when they refuse to move out, the progress of the renovation project will be affected. Take Pan Zuyin's former residence as an example. Three households in the last row of West Road refused to move out because they were not satisfied with high transaction fees. The second phase of the renovation was once stagnated for this reason. This is the first conclusion drawn. Therefore, gradually eliminating the confusion surrounding property rights during transformation is necessary so that the necessary changes can be implemented in batches according to the unique layout of historical buildings.

Secondly, according to Coase's point of view on The Problem of Social Cost, urban renewal represents a process of resource optimisation and reuse. Historical buildings have both historical value, artistic value and residential functions. The historic and artistic values of historical buildings are scarce and non-renewable resources. The

value of historical buildings must be protected during urban sustainable development. After property rights are clarified, public buildings are protected by the government. The government allocates funds for protection through different property-rights holders. Whether it is made into a museum or a hotel with the significance of experiencing ancient architecture, the resources can be protected, continued and presented in the best state. If a historical building is owned by a government department or institution holding both property and usage rights, it is funded by that department or institution. If the historical building is an affordable housing project owned by the Housing Authority, the government can establish an enterprise to provide monetary compensation or property-rights replacement to users of this building and gradually recover their right to use it. When property rights are private, private property owners must maintain historical buildings under the supervision of the government. Therefore, the state gradually withdraws the usage rights of historical buildings with public property rights and takes over and protects these buildings. Private property owners can be supervised and managed by the government. When property rights are chaotic, no one will be willing to invest in protecting these buildings. Only by clarifying the property rights and clarifying the property owners can the protection and reuse of such buildings be effectively promoted in urban renewal.

Thirdly, this research expands Coase's views on the Firm, the Market and the Law. In practical cases, the state can flexibly assume different roles and promote the implementation of large-scale projects in multiple dimensions. The state can expand the market through policy regulation for projects that cost a lot of money and require the

collaboration of multiple professionals and use state-controlled enterprises to participate in implementation and operation. Enterprises with this background can develop a deeper understanding of the pertinent policies and strictly abide by the necessary laws and regulations. Similarly, enterprises with this background are better able to obtain financial support and successfully solve the problem of shortage of funds. In this way, excessive commercialisation due to financial pressure can be avoided. In the actual case of historical city protection, the role of the state can also be flexible and diverse, either as a supervisor or as a participant. The protection of historical cities requires a lot of money and requires the collaboration and cooperation of many professionals. Enterprises under the SASAC can be used to participate in the transformation and protection project, which not only understands national policies but also obtains a large amount of financial support.

The conclusions of this research expand the scope of application of the Coase Theorem and provide a feasible solution to the problems of unclear property rights and shortage of funds in heritage conservation so that they no longer hinder the protection of historical buildings. As increasing numbers of historical buildings are opened to the public through adaptive reuse, their historical and artistic value may continue to be recognised and appreciated.

8.2 Theoretical Contribution

This research applies the Coase theorem to heritage conservation, clarifies the issues of

property rights and the latter's impact on transactions and verifies the correctness of the third Coase theorem. It analyses the role of the state in the protection and renewal of historical buildings and complements the application of Coase Theorem. Under the premise of effective supervision, the state can participate in projects that ordinary enterprises cannot afford as super enterprises. This finding enriches the application of the Coase theorem to the national level and provides solutions to many global problems.

8.3 Practical Contribution

This research takes Suzhou as an example to determine the property rights and financial issues of heritage conservation. This research clearly analyses the existing difficulties and describes approaches based on international research to solve these problems. This study also defines a guiding institutional framework and emphasises the important role of the state in heritage conservation. The results of this work can be used as a reference for policy makers worldwide.

8.4 Limitations and Recommendation for Future Research

This research includes some limitations that may affect the interpretation of the results. Firstly, because the property-rights structure is fairly complex and a sensitive matter, the government cannot provide official property-rights data of historical buildings. Therefore, researchers must conduct on-site field investigations to obtain more data. A

study of similar cases in other cities revealed this problem to be fairly common. Thus, researcher are encouraged to conduct on-site investigation of the research object to obtain first-hand data in follow-up studies of other projects. Secondly, urban renewal is a dynamic process. In a survey of the Pingjiang Historic Block, the structures of property rights and use functions, for example, showed remarkable changes over the course of 5 years. The data listed by the author refer only to the state recognized at the time indicated. Changes in property rights can be observed and the applicability of different governance models can be verified by comparing data collected at different times. Finally, the model proposed in this research provides governance models that can be used with different property-rights structures. The protection and transformation of historical buildings is challenged by the fact that each structure presents a unique value if the cultural and historical values of a building are protected to the maximum extent. Thus, in actual use, formulating a detailed renovation plan based on the characteristics of the building itself is necessary.

8.5 Concluding Remarks

This research aimed to explore the methods of transformation and renewal corresponding to different property-rights models in heritage conservation as well as the appropriate sources of funds. Taking the Pingjiang Historic Block as a case study, this research provides a reference for the protection of other world cultural heritage sites. The relationship between property rights and financing issues is explored, and

approaches for the successful protection of historical heritage sites through government policy control and financial support are discussed.

Previous research mainly focused on the craftsmanship of historical building renovation; historical buildings are rarely discussed from the perspective of property rights. Unfortunately, because property rights are often not clearly defined, efforts to transform and restore heritage sites may be futile. This research fills the gap in the literature and provides guidance for all heritage conservation projects that have stagnated on account of hazy property rights and funds. The findings are applicable not only to China but also to many international cases. The success of the Suzhou model provides a reference method for decision-makers of similar projects.

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Appendices

Appendix A. List of the Property Rights of Historic Buildings in PingJiang Historic Quarter

Property Rights	Name
Publicly-owned	Couple's Retreat Garden, QuanJin Guild Hall, HuiYin Garden, Residence of PAN on NiuJia Alley, Residence of WANG on DongHuaQiao Alley, Wei Taoist Temple, ChangZhouXianXue DaCheng Hall, HeMing Hall KANG Residence, Deng Ancestral Hall, Residence of SHEN on ZhongZhangJia Alley, WANG's SongFen Free Estate, Residence of FANG, PAN's SongLin Free Estate, DeLin Hall WU Residence, Residence of DING, Former Residence of HAN Chong, ZhaoQing Temple, Residence of ZHENG, Residence of ZHU, Residence of ZHOU, Former Residence of PAN ZuYin, Residence of HAN, QingShen Hall WANG Residence, Former Residence of GUO ShaoYu, JIANG's Free Estate, Residence of WANG, XiaoYou Hall ZHANG Residence, DONG's Free Estate, Residence of WANG, ZhenJue Nunnery, City God Temple of YuanHe County, Residence of CHEN, Residence of TIAN, Drawing Room on No.116 Cang Street, Residence of SHEN XingShu, Residence of PANG, Residence of FANG on XuanQiao Alley, Residence of ZHA, HANG's Free Estate, Residence of YANG, Former Residence of WU XueQian, Residence of WU
Privately-owned	
Publicly & Privately-owned	Residence of PAN before Wei Taoist Temple, Residence of QIAN, Former Residence of HONG Jun & Ancestral Hall, Former Residence of GU JieGang, Residence of YANG on DaLiuZhi Alley, TianGong Temple, Residence of CHEN, Residence of PAN, DING's JiYang Free Estate, DuanShan Hall PAN Residence, Residence of SONG, HuaiDe Hall LING Residence, Residence of PAN, XU's ChunHui Free Estate, Residence of XU, DuYou Hall YUAN Residence, Former Residence of TANG Na, Residence of WU, Former Residence of AI BuChan, Former Residence of SU ZhaoBing, Residence of SANG on XiaoJia Alley

Appendix B. Experts Verification for Identifying Factors (Round One)

研究問題	類別	影響因素	打分規則
历史街区改造 的影響因素	監管 Regulatory	1、立法和監管措施 Legislative and regulatory measures 1 2 3 4 5	1 表示非常不重要 2 表示不重要 3 表示一般 4 表示重要 5 表示非常重要 (請您在分數上劃√)
		2、政府政策及關注度 Government policy and attention 1 2 3 4 5	
		3、政策執行、檢測 Policy implementation and monitoring 1 2 3 4 5	
		4、衝突解決 Resolve conflicts 1 2 3 4 5	
		5、地方發展策略 Local development strategies 1 2 3 4 5	

历史街区改造 的影響因素	公眾參與 Civic Engagement	6、價值與意義 Values and Significance of the site 1 2 3 4 5	1 表示非常不重要 2 表示不重要 3 表示一般 4 表示重要 5 表示非常重要 (請您在分數上劃√)
		7、通知、動員與參與 Inform, mobilise and engage 1 2 3 4 5	
		8、業主與住戶的需求 Needs of homeowners and residents 1 2 3 4 5	
		9、居民意願 Residents' willing 1 2 3 4 5	
		10、調解與談判 Mediation and Negotiation 1 2 3 4 5	
		11、專家及機構的支持 Support from experts and institutions 1 2 3 4 5	

历史街区改造 的影響因素	技術 Knowledge and planning	12、完整性與原真性 Integrity and authenticity of urban heritage 1 2 3 4 5	1 表示非常不重要 2 表示不重要 3 表示一般 4 表示重要 5 表示非常重要 (請您在分數上劃√)
		13、文化多樣性 Cultural significance and diversity 1 2 3 4 5	
		14、環境影響 Environmental Impact 1 2 3 4 5	
		15、技術難度 Technical difficulty 1 2 3 4 5	
		16、城市環境與規劃 Urban Environment and Planning 1 2 3 4 5	
		17、生活與城市空間質量 Quality of life and of urban space 1 2 3 4 5	

历史街区改造 的影響因素	資金 Financial	18、房屋產權 Property Rights 1 2 3 4 5	1 表示非常不重要 2 表示不重要 3 表示一般 4 表示重要 5 表示非常重要 (請您在分數上劃√)
		19、財政措施 Fiscal measures 1 2 3 4 5	
		20、適當的資金籌措方式 Appropriate forms of funding 1 2 3 4 5	
		21、成長潛力 Growing Potential 1 2 3 4 5	
		22、多种合作模式 A variety of models of partnerships 1 2 3 4 5	
您認為還有其 他沒有提及的 影響因素嗎?			

Appendix C. AHP Questionnaire of comparing importance between different factors (Round Two)

研究題目：中國城市更新進程中歷史街區改造的影響因素框架研究（以蘇州為例）

研究目的：通過擬訂中國歷史街區改造的影響指標，幫助歷史街區在得到合理保護的前提下進行改造更新，從而推進城市更新可持續發展。

研究問題：本問卷旨在瞭解各位專家根據層次分析法中 1-9 標度法對歷史街區改造各因素影響程度進行賦值，通過對專家打分的判斷分析，找出要比較的各因素兩兩比較的重要程度來構造判斷矩陣。本問卷採取匿名方式作答，您此次提供的寶貴意見和資料僅作為學術研究之用，對您提供的信息我們將嚴格保密。感謝您百忙之中參與本次答題，以及對遺產保護工作的支持。

以下為 AHP 評價尺度供您參考：

成對比較標準	定義	內容
1	同等重要 Equality Importance	兩個要素具有同等的重要性
3	稍微重要 Moderately More Importance	認為其中一個要素較另一個要素稍微重要
5	相當重要 Strongly More Importance	根據經驗與判斷，強烈傾向於某一要素
7	明顯重要 Very Strongly Importance	實際上非常傾向於某一要素
9	絕對 Extremely Importance	有證據確定，在兩個要素比較時，某一要素非常重要，即一個要素明顯強於另一個要求可控制的最大可能
上述數值的倒數		當甲要素與乙要素比較時，若被賦予以上某個標度值，則乙要素與甲要素比較時的權重就應該是那個標度的倒數

Source: Saaty, T. L., & Forman, E. H. (2003). The hierarchon: A dictionary of hierarchies. RWS Pub..

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Table C.1-1 第一層級比較

	1	3	5	7	9
監管 R 與公眾參與 CE 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
監管 R					
公眾參與 CE					
	1	1/3	1/5	1/7	1/9

Table C.1-2 第一層級比較

	1	3	5	7	9
監管 R 與技術 KP 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
監管 R					
技術 KP					
	1	1/3	1/5	1/7	1/9

Table C.1-3 第一層級比較

	1	3	5	7	9
監管 R 與資金 F 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
監管 R					
資金 F					
	1	1/3	1/5	1/7	1/9

Table C.1-4 第一層級比較

	1	3	5	7	9
公眾參與 CE 與技術 KP 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
公眾參與 CE					
技術 KP					
	1	1/3	1/5	1/7	1/9

Table C.1-5 第一層級比較

	1	3	5	7	9
公眾參與 CE 與資金 F 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
公眾參與 CE					
資金 F					
	1	1/3	1/5	1/7	1/9

Table C.1-6 第一層級比較

	1	3	5	7	9
技術 KP 與資金 F 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
技術 KP					
資金 F					
	1	1/3	1/5	1/7	1/9

Table C.2-1 監管 R 子項目比較

	1	3	5	7	9
立法監管 LRM 與政府政策 GPA 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
立法和監管措施 LRM					
政府政策及關注度 GPA					
	1	1/3	1/5	1/7	1/9

Table C.2-2 監管 R 子項目比較

	1	3	5	7	9
立法監管 LRM 與政府執行 檢測 PIM 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
立法和監管措施 LRM					
政府政策及關注度 PIM					
	1	1/3	1/5	1/7	1/9

Table C.2-3 監管 R 子項目比較

	1	3	5	7	9
政府政策 GPA 與政府執行 檢測 PIM 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
政府政策 GPA					
政府執行檢測 PIM					
	1	1/3	1/5	1/7	1/9

Table C.3 公眾參與 CE 子項目比較

	1	3	5	7	9
居民意願 RW 與專家及機構 的支持 SEI 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
居民意願 RW					
專家及機構的支持 SEI					
	1	1/3	1/5	1/7	1/9

Table C.4-1 技術 KP 子項目比較

	1	3	5	7	9
完整性與原真性 IA 與文化 多樣性 CD 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
完整性與原真性 IA					
文化多樣性 CD					
	1	1/3	1/5	1/7	1/9

Table C.4-2 技術 KP 子項目比較

	1	3	5	7	9
完整性與原真性 IA 與城市 環境與規劃 UEP 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
完整性與原真性 IA					
城市環境與規劃 UEP					
	1	1/3	1/5	1/7	1/9

Table C.4-3 技術 KP 子項目比較

	1	3	5	7	9
文化多樣性 CD 與城市環境 與規劃 UEP 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
文化多樣性 CD					
城市環境與規劃 UEP					
	1	1/3	1/5	1/7	1/9

Table C.5-1 資金 F 子項目比較

	1	3	5	7	9
房屋產權 PR 與資金籌措方 式 AFF 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
房屋產權 PR					
資金籌措方式 AFF					
	1	1/3	1/5	1/7	1/9

Table C.5-2 資金 F 子項目比較

	1	3	5	7	9
房屋產權 PR 與多樣合作模式 MP 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
房屋產權 PR					
多樣合作模式 MP					
	1	1/3	1/5	1/7	1/9

Table C.5-3 資金 F 子項目比較

	1	3	5	7	9
資金籌措方式 AFF 與多樣合作模式 MP 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
資金籌措方式 AFF					
多樣合作模式 MP					
	1	1/3	1/5	1/7	1/9

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Table C.6-1 第一層級比較

	1	3	5	7	9
監管 R 與公眾參與 CE 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
監管 R					
公眾參與 CE					
	1	1/3	1/5	1/7	1/9

Table C.6-2 第一層級比較

	1	3	5	7	9
監管 R 與技術 KP 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
監管 R					
技術 KP					
	1	1/3	1/5	1/7	1/9

Table C.6-3 第一層級比較

	1	3	5	7	9
監管 R 與資金 F 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
監管 R					
資金 F					
	1	1/3	1/5	1/7	1/9

Table C.6-4 第一層級比較

	1	3	5	7	9
公眾參與 CE 與技術 KP 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
公眾參與 CE					
技術 KP					
	1	1/3	1/5	1/7	1/9

Table C.6-5 第一層級比較

	1	3	5	7	9
公眾參與 CE 與資金 F 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
公眾參與 CE					
資金 F					
	1	1/3	1/5	1/7	1/9

Table C.6-6 第一層級比較

	1	3	5	7	9
技術 KP 與資金 F 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
技術 KP					
資金 F					
	1	1/3	1/5	1/7	1/9

Table C.7-1 監管 R 子項目比較

	1	3	5	7	9
立法監管 LRM 與政府政策 GPA 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
立法和監管措施 LRM					
政府政策及關注度 GPA					
	1	1/3	1/5	1/7	1/9

Table C.7-2 監管 R 子項目比較

	1	3	5	7	9
立法監管 LRM 與政府執行 檢測 PIM 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
立法和監管措施 LRM					
政府政策及關注度 PIM					
	1	1/3	1/5	1/7	1/9

Table C.7-3 監管 R 子項目比較

	1	3	5	7	9
政府政策 GPA 與政府執行 檢測 PIM 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
政府政策 GPA					
政府執行檢測 PIM					
	1	1/3	1/5	1/7	1/9

Table C.8 公眾參與 CE 子項目比較

	1	3	5	7	9
居民意願 RW 與專家及機構 的支持 SEI 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
居民意願 RW					
專家及機構的支持 SEI					
	1	1/3	1/5	1/7	1/9

Table C.9-1 技術 KP 子項目比較

	1	3	5	7	9
完整性與原真性 IA 與文化 多樣性 CD 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
完整性與原真性 IA					
文化多樣性 CD					
	1	1/3	1/5	1/7	1/9

Table C.9-2 技術 KP 子項目比較

	1	3	5	7	9
完整性與原真性 IA 與城市 環境與規劃 UEP 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
完整性與原真性 IA					
城市環境與規劃 UEP					
	1	1/3	1/5	1/7	1/9

Table C.9-3 技術 KP 子項目比較

	1	3	5	7	9
文化多樣性 CD 與城市環境 與規劃 UEP 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
文化多樣性 CD					
城市環境與規劃 UEP					
	1	1/3	1/5	1/7	1/9

Table C.10-1 資金 F 子項目比較

	1	3	5	7	9
房屋產權 PR 與資金籌措方 式 AFF 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
房屋產權 PR					
資金籌措方式 AFF					
	1	1/3	1/5	1/7	1/9

Table C.10-2 資金 F 子項目比較

	1	3	5	7	9
房屋產權 PR 與多樣合作模式 MP 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
房屋產權 PR					
多樣合作模式 MP					
	1	1/3	1/5	1/7	1/9

Table C.10-3 資金 F 子項目比較

	1	3	5	7	9
資金籌措方式 AFF 與多樣合作模式 MP 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
資金籌措方式 AFF					
多樣合作模式 MP					
	1	1/3	1/5	1/7	1/9

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Table C.11-1 第一層級比較

	1	3	5	7	9
監管 R 與公眾參與 CE 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
監管 R					
公眾參與 CE					
	1	1/3	1/5	1/7	1/9

Table C.11-2 第一層級比較

	1	3	5	7	9
監管 R 與技術 KP 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
監管 R					
技術 KP					
	1	1/3	1/5	1/7	1/9

Table C.11-3 第一層級比較

	1	3	5	7	9
監管 R 與資金 F 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
監管 R					
資金 F					
	1	1/3	1/5	1/7	1/9

Table C.11-4 第一層級比較

	1	3	5	7	9
公眾參與 CE 與技術 KP 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
公眾參與 CE					
技術 KP					
	1	1/3	1/5	1/7	1/9

Table C.11-5 第一層級比較

	1	3	5	7	9
公眾參與 CE 與資金 F 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
公眾參與 CE					
資金 F					
	1	1/3	1/5	1/7	1/9

Table C.11-6 第一層級比較

	1	3	5	7	9
技術 KP 與資金 F 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
技術 KP					
資金 F					
	1	1/3	1/5	1/7	1/9

Table C.12-1 監管 R 子項目比較

	1	3	5	7	9
立法監管 LRM 與政府政策 GPA 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
立法和監管措施 LRM					
政府政策及關注度 GPA					
	1	1/3	1/5	1/7	1/9

Table C.12-2 監管 R 子項目比較

	1	3	5	7	9
立法監管 LRM 與政府執行 檢測 PIM 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
立法和監管措施 LRM					
政府政策及關注度 PIM					
	1	1/3	1/5	1/7	1/9

Table C.12-3 監管 R 子項目比較

	1	3	5	7	9
政府政策 GPA 與政府執行 檢測 PIM 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
政府政策 GPA					
政府執行檢測 PIM					
	1	1/3	1/5	1/7	1/9

Table C.13 公眾參與 CE 子項目比較

	1	3	5	7	9
居民意願 RW 與專家及機構 的支持 SEI 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
居民意願 RW					
專家及機構的支持 SEI					
	1	1/3	1/5	1/7	1/9

Table C.14-1 技術 KP 子項目比較

	1	3	5	7	9
完整性與原真性 IA 與文化 多樣性 CD 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
完整性與原真性 IA					
文化多樣性 CD					
	1	1/3	1/5	1/7	1/9

Table C.14-2 技術 KP 子項目比較

	1	3	5	7	9
完整性與原真性 IA 與城市 環境與規劃 UEP 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
完整性與原真性 IA					
城市環境與規劃 UEP					
	1	1/3	1/5	1/7	1/9

Table C.14-3 技術 KP 子項目比較

	1	3	5	7	9
文化多樣性 CD 與城市環境 與規劃 UEP 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
文化多樣性 CD					
城市環境與規劃 UEP					
	1	1/3	1/5	1/7	1/9

Table C.15-1 資金 F 子項目比較

	1	3	5	7	9
房屋產權 PR 與資金籌措方 式 AFF 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
房屋產權 PR					
資金籌措方式 AFF					
	1	1/3	1/5	1/7	1/9

Table C.15-2 資金 F 子項目比較

	1	3	5	7	9
房屋產權 PR 與多樣合作模式 MP 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
房屋產權 PR					
多樣合作模式 MP					
	1	1/3	1/5	1/7	1/9

Table C.15-3 資金 F 子項目比較

	1	3	5	7	9
資金籌措方式 AFF 與多樣合作模式 MP 比較	同等重要	稍微重要	相當重要	明顯重要	絕對重要
資金籌措方式 AFF					
多樣合作模式 MP					
	1	1/3	1/5	1/7	1/9

Appendix D. Questions for Experts Interview (Round Three)

研究題目：中國城市更新進程中歷史街區改造的影響因素框架研究（以蘇州為例）

研究目的：通過擬訂中國歷史街區改造的影響指標，幫助歷史街區在得到合理保護的前提下進行改造更新，從而推進城市更新可持續發展。

研究問題：如何通過對歷史街區現狀的合理規劃，最終使得街區得以保護與利用？

- 1、中國城市更新進程中歷史街區保護與更新的難點是什麼？
- 2、影響中國歷史街區保護與更新的指標有哪些？
- 3、如何解決這些難點，使得歷史街區得以保護與改造？

專家訪談問題：

- 1、蘇州作為全國唯一一個歷史文化名城保護示範區，在古城保護方面卓有成效，您認為主要原因有哪些？
- 2、蘇州主城區內有近 300 處控保建築，其中 75%作為保障性住房，由於租戶缺乏古建保護意識，不合理的使用對房屋破壞嚴重，對此您有什麼看法？
- 3、蘇州政府開展古建老宅保護修繕工程已滿十年，越來越多的老宅煥發新生，這項工程今後是否會繼續開展，您覺得面臨哪些困難？
- 4、老建築的居住環境難以滿足現代生活的需求，但是改造又不可避免地破壞原有建築，民生和保護之間的界限難以把握，您覺得蘇州在維持老建築文物價值和居住功能上有什麼值得借鑒的做法？
- 5、蘇州市先後出臺了若干法律法規，有效地保護了歷史文化名城風貌。
 - (1) 您覺得這些法律法規是否有不完善之處？
 - (2) 蘇州作為保護示範區是否起到了示範性的作用？同類型城市可否借鑒？

