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**ECONOMIC SIGNIFICANCE, DIRECTIONS AND PROSPECTS FOR THE
DEVELOPMENT OF THE PUBLIC-PRIVATE PARTNERSHIP REGIME IN
THE PEOPLE'S REPUBLIC OF CHINA**

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INTRODUCTION

With the development of society, there are more and more basic implementations of state management. People have gradually discovered a problem. The efficiency and quality of government, state-owned enterprises, public utility management units, etc., in managing projects and infrastructure such as subways, highways, hospitals, schools, etc., are seriously lower than that of private enterprises. This phenomenon exists in any country, but it is especially obvious in socialist countries. This also prompted the birth of a new project operation and management model Namely «Public-Private Partnership» (hereinafter referred to as PPP model).

PPP is a partnership between the public sector (usually a government sector) and the private sector to provide public products and services. Its definition can be divided into broad and narrow sense. China defines PPP as a long-term cooperative relationship established by government departments and social capital in the field of infrastructure and public services, which belongs to the category of broad PPP.

The relevance of the chosen research topic is explained by the fact that the public-private partnership regime plays an important role in the economic development and infrastructure construction of China.

Under the PPP mode, China encourages private enterprises, private capital, state-owned enterprises and foreign enterprises to cooperate with the government in the construction of public infrastructure. The PPP industry in China has been growing more and more in the past 5 years. The cumulative market size of the industry has increased from 2 trillion and 337 billion 490 million yuan in 2014 to 15 trillion and 107 billion 220 million in 2018, and the compound growth rate is 59.4 % [1]. In the future, as China's PPP industry policy is constantly improving and the industry is gradually standardized, China's PPP industry will continue to grow steadily. It is estimated that by 2023, the market scale of China's PPP industry will reach 23 trillion and 348 billion 210 million yuan.

Different countries and institutions have different classifications of PPP. Based on the participation of social capital, the ownership of project assets, the ownership of business risks and other factors, combined with the actual situation in China, we believe that PPP can be roughly divided into partial outsourcing, franchising and private Privatisation Type.

The *aim of the study* is to determine the directions and prospects for the development of the public-private partnership regime in the People's Republic of China.

The objectives of the proposed research include:

- study of the essence of the concept of "public-private partnership regime";
- research of models of cooperation between enterprises of various forms of

ownership;

- study of China's policy in the field of public-private partnership regime;
- analysis of the impact of the PPP regime on economic development and infrastructure in China.

The work consists of an introduction, a general description of the work, the main part, which includes three chapters, a conclusion, a list of references and applications.

The first chapter explored the theoretical foundations of public-private partnership: the concept, essence, principles, models of public-private partnership.

The second chapter analyzes the development of the public-private partnership regime in the people's republic of China.

The third chapter presents prospects for the development of the public-private partnership regime in the people's republic of China.

GENERAL DESCRIPTION

Key words: PUBLIC-PRIVATE PARTNERSHIP (PPP), PARTNERSHIP MODEL, GOVERNMENT INVESTMENT, SOCIAL CAPITAL, INVESTMENT IN INFRASTRUCTURE

The subject of research in the dissertation work is public-private partnership model.

The object of the research is public-private partnership model in China.

The *aim of the study* is to develop directions for the public-private partnership model in China.

The *objectives* of the proposed research include:

- origins of the public-private partnership model;
- the international development of the public-private partnership model;
- history of the public-private partnership model in China;
- current status of public-private partnership in China;
- issues facing China's public-private partnership;
- future prospects and development directions of public-private partnership in China.

In writing this article, we have divided this article into three parts. The first part focuses on the definition and origin of the PPP model, as well as the international development of the PPP model, and mainly analyzes the three countries of the United Kingdom, Canada and Australia. Includes literature review and discussion. Collect raw data and raw materials. The second part is about the development history and situation of the PPP model in China, collecting a lot of historical data. The third part is an analysis of the current situation, problems and prospects of China's PPP model, including suggestions and expectations for the development of China's PPP model.

The following research methods were used in the work: structural and functional analysis, economic and statistical methods of collecting and processing information, traditional methods of comparison and generalization, systemic method, method of expert assessments.

This paper provides ideas for the optimization research of China's PPP model development, and puts forward the optimization direction and suggestions for the development of PPP model in China based on literature and original data.

The paper totals 67 pages. Includes 3 sets of illustrations and 3 tables. The total number of references was 40.

CHAPTER 1 THEORETICAL FOUNDATIONS OF PUBLIC-PRIVATE PARTNERSHIP

1.1 Definition of the public-private partnership model

In a broad sense, PPP refers to various partnerships established by the public and private sectors in the process of providing public products and services; in a narrow sense, PPP refers to the general term for a series of financing models for cooperative projects between the public and private sectors [2].

PPP is short for Public-Private Partnerships, the "Public-Private Partnership". That is a partnership between the public sector (usually a government sector) and the private sector to provide public products and services.

The widespread application of the PPP model began in the 1980s, and the PPP terminology became familiar. As a general term for the partnership between the public sector and the private sector, PPP in a broad sense is a broad concept in itself; coupled with the influence of different ideological and economic composition, there are also certain differences in the definition of PPP between countries and different institutions (Table 1.1).

PPP in the narrow sense refers to a series of project financing models in the cooperation between the public and private sectors, such as BOT (construction-operation-to-handover), BOO (construction-ownership-to-operation) and TOT (transfer-operation-handover). In the narrow sense focuses more on the operation mode, risk sharing mechanism, allocation of investment and financing functions and project monitoring evaluation of public and private sector cooperation projects [3].

To correctly understand the definition of PPP:

- firstly define the public and private sectors;
- secondly, the purpose of PPP is to provide public goods and services;
- thirdly, the public sector and the private sector clearly specify their duties and rights through contract text.

China defines PPP as a long-term partnership established by government departments and social capital in infrastructure and public services, which belongs to the scope of broad PPP [4]. However, the general model of PPP is mainly aimed at the narrow PPP, which usually design, builds, operates and maintains infrastructure, and obtains reasonable return on investment through "user payment" and necessary "government payment"; government is responsible for the price and quality supervision of infrastructure and public services to maximize the public interest."

First, the public sector in PPP is clearly the government department and does not include other non-government public departments (such as social groups, industry

associations, private non-enterprise units, etc.), that is, the scope of the public sector of the Ministry of Finance on PPP is relatively small [5].

Table 1.1 – Definition of PPP by World agencies

Organization Name	Define the Content	References
Canada PPP National Council	A cooperative relationship between the public and private sectors, based on the mutual ambiguity, through the appropriate resource separation steamer, risk sharing and interest sharing mechanism, to meet the clearly defined public zero demand in advance	PPP Reference Guide Version 2.0-2014
The US PPP National Council	A way of public goods between outsourcing and privatization with full use of private resources to design, build, invest, operate and maintain public infrastructure and provide services to meet public needs	
United Nations Training Research Institute	Two meanings: 1. Various partnerships between public and private people established to meet the public product demand; 2. Partnership between the public sector and private parts established to meet the needs of public goods;	
The European Commission	Partnership between public and private sectors formed to provide public projects or utilities	
China (Ministry of Finance, Government and Social Capital Cooperation Center)	The cooperation model of government and social capital is a long-term partnership established in the field of infrastructure and public affairs. The usual model is that social capital undertakes to design, build, operate, maintain infrastructure, and obtains reasonable return on investment through "user payment" and necessary "government payment"; government departments are responsible for the price and quality ironing of infrastructure and public services to maximize the public interest.	

Secondly, the scope of private capital in the PPP definition is enlarged into private capital, and private capital is no longer defined by ownership nature, and generally refers to the domestic and foreign corporate legal person who has established the modern enterprise system for profit [6].

Third, the financing platform companies and other holding state-owned enterprises are excluded from the scope of social capital.

Based on PPP participation of social capital mode, project assets, property ownership, business ownership and other risk PPP projects can be divided into categories of outsourcing, franchising and privatization class category, at present China

pushing the PPP to class-based franchise.

The PPP model can be implemented in all links of the entire life cycle of public products and services, so it can be based on the degree of participation of social capital in PPP projects, the ownership of project assets, the allocation of investment and financing responsibilities, and the ownership of business risks (the amount of risk the social capital bears) and other factors to classify PPP projects. The World Bank in conjunction with PPP project assets ownership, the right to operate elements, such as the investment PPP mode is divided into 6 modes, Canada PPP National Commission on the basis of the private sector in PPP risk of a project the size of the PPP model is divided into 12 modes (Table 1.2).

Table 1.2 – PPP classification of the World Bank and the Greater Children PPP National Committee

The World Bank	Canada PPP National Council	References
Service outsourcing	Contribution Contact (Donation Agreement) Operation and Maintenance Contract (O & M, commissioned operations)	PPP Reference Guide Version 2.0-2014
Manage Outsourcing	Design Build (DB, Design I Build) Design Build Major Maintenance (DBMM, Design One Build One Operation One Maintenance)	
Leasing:	Design Build Operation (DBO, Design I Build One Operation) Lease Develop Operate (LDO, leasing a development set of camp)	
Franchise operations	Build Lease Operate Transfer (BLOT, Construction One Leasing One Operation One Transfer) Build Transfer Operate (BTO, Construction I Transfer One operation)	
BOTBOOT	Build Own Transfer (BOT, Construction One Owned One Transfer) Build Own Operate Transfer (BOOT, Construction One Owned One Operation One Transfer)	
Stripping	Build Own Operate (BOO, Construction One Owned One Operation) Buy Build Operate (BBO, Buy 1 Construction One Operation)	

1.2 Characteristics and conditions required for PPP mode

Different from the traditional government investment model, PPP mode usually

refers to the government introducing social capital parties with investment and financing and operation ability through public procurement, which sets up a project company to be responsible for the investment and financing, construction, operation and maintenance of the project, and handed over to the government after the expiration of the cooperation period.

In general, the PPP mode has some basic commonalities and characteristics, consisting of:

a. Obvious purpose and domain characteristics. The main body of PPP has strong attributes of public services and public facilities, and its method is to purchase products or services provided by the private sector through the public sector or the people [7].

b. Value for money. PPP emphasizes cost reduction and efficiency increase throughout the life cycle, financial affordability and project financing.

c. Long-term cooperation. PPP has a long-term nature, that is, the two parties obtain corresponding and stable returns by clarifying the relationship between rights and obligations and conducting in-depth cooperation on this basis. Sometimes government departments also need to provide necessary capital expenditures. These expenditures may include land, existing assets, debt or capital financing. Unlike the BT model, its expectations in terms of operation, maintenance, and financing are more long-term.

d. Division of labor and complementarity. Under the principle of “letting professional people do professional things” [8], PPP emphasizes more on operational functions. Therefore, the important function of the public sector is to introduce funds and professional skills from the social capital side, formulate clearer boundaries or standards, and adopt. The supervision of price and quality completes the provision of public products or services. Under these conditions, the social capital party will undertake most of the work of designing, constructing, operating, and maintaining infrastructure, and bear the corresponding risks.

e. Partnership. Compared with other relationships, the partnership between the private sector and the government and public sector in PPP is unique in that the project goals are consistent. The reason why the public sector and the private sector cooperate and form partnerships, the core problem is that there is a common goal: on a specific project, with the least resources, to achieve the most and best products or services. The private sector is pursuing its own interests with this goal, while the public sector is pursuing public welfare and interests with this goal.

f. Risk sharing. In PPP, the characteristic that the public sector and the private sector share risks reasonably is a significant sign that distinguishes it from other forms of transactions between the public sector and the private sector. The public sector assumes as much as possible the associated risks of its own advantages, and allows the other party to bear the associated risks as much as possible. Take the risk as small as possible. When the private sector fails to meet the basic expected benefits, the public

sector can provide cash flow subsidies to it. This approach effectively controls the private sector's operational risks [9]. At the same time, the private sector will assume more or even all specific management responsibilities based on its comparative advantages.

g. Benefit sharing and multi-party win-win. A true PPP is a public service jointly participated by the government, the market and the society, in which "optimal risk" and "development sharing" are its basic concepts. Due to the public attributes of PPP itself, it cannot aim at maximizing benefits. While the project provides products or public services, it is ensured that the private sector, private enterprise or institution as the participant can obtain relatively peaceful and long-term stable investment returns. Each participant can share the PPP social achievements and form a win-win situation for all parties.

The basic structure of PPP mode is shown in Figure 1.1 [10].

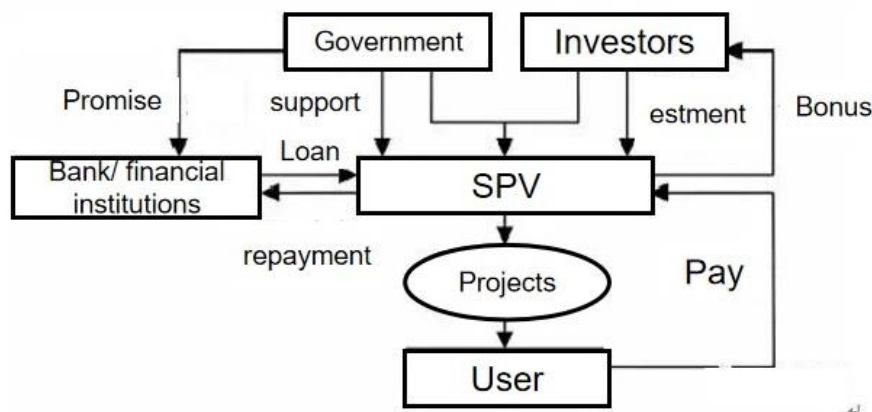


Figure 1.1 – Basic framework of PPP mode

Conditions required for PPP mode are:

1 Government support.

Strong support from government departments. In the PPP model, the roles and responsibilities of the public and private partners will vary from project to project, but the overall role and responsibility of the government - to provide the public with the best public facilities and services - remains the same. The PPP model is a more effective way to provide public facilities or services, but it is not a substitute for effective government governance and decision-making. In any case, the government should proceed from the standpoint of protecting and promoting the public interest, be responsible for the overall planning of the project, organize bidding, straighten out the authority and relationship between the participating agencies, and reduce the overall risk of the project.

2 Improve the laws.

A sound system of laws and regulations. The operation of PPP projects needs to clearly define the responsibilities, obligations and risks that government departments

and corporate departments need to bear in the project at the legal level, so as to protect the interests of both parties. Under the PPP model, public-private cooperation can be adopted at all stages of project design, financing, operation, management, and maintenance, and effective laws and regulations can be used to effectively restrain both parties, which is a powerful guarantee to maximize advantages and make up for shortcomings.

3 Professionals.

Support from specialized institutions and talents. The operation of the PPP model widely adopts the method of project franchise to carry out structured financing, which requires more complicated legal, financial and financial knowledge.

On the one hand, policy-making participants are required to formulate a standardized and standardized PPP transaction process to provide technical guidance and related policy support for the operation of the project; on the other hand, specialized intermediaries are required to provide specific and professional services.

1.3 Principles of public-private partnership

Core Principles of the PPP principle:

a. Governance-to governance. Under the framework of the rule of law and administration by law, give full play to the decisive role of the market in the allocation of resources, allow and social capital to freely choose partners in accordance with the law, fully respect the contract freedom in the process of concluding and performing, protect the legitimate rights and interests of the PPP project participants in accordance with the law, and jointly safeguard legal authority and fairness and justice [11].

b. Equal cooperation. Under the PPP model, the and social capital are equal legal subjects based on the PPP project. The legal status is equal and equal rights and obligations should be concluded on the basis of full consultation and mutual benefit, and equally claim rights and perform obligations in accordance with the law.

c. Maintain public welfare. We will establish a "trinity" supervision framework for performance management, administrative supervision and social supervision, and give priority to ensuring public security and public interests. In addition to stipulating the obligations of performance monitoring and quality control of the social capital party, it should also guarantee the reasonable supervision and intervention right in order to strengthen the performance management of the social capital. At the same time, we should also strictly perform our administrative functions in accordance with the law, and establish and improve a timely and effective project information disclosure and public supervision mechanism.

d. Honesty and trustworthiness. And Social Capital shall clearly define the rights

and obligations of both parties within the whole life cycle of project financing, construction, operation and handover, and truly express their meaning in the whole process of management, conscientiously abide by the agreement, properly fulfill their obligations, and bear the liability for breach of contract according to law.

e. Equity and efficiency. In the PPP project, we should always implement the principle of value for money, and consider fairness and efficiency in risk sharing and benefit sharing: we should improve the efficiency of public service supply and fund use by reasonably allocating project risks between social capital, and also consider the reasonable income expectation, financial tolerance and payment ability to prevent excessive damage or excessive benefit [12].

f. Flexible in taking into consideration. Since the life cycle of the PPP project is usually long, the actual needs of the full life cycle to ensure the integrity and relative stability of the content should be fully considered, and some flexible adjustment mechanisms for term change (extension and early termination), content change (output standard adjustment, price adjustment) and subject change (transfer) should be reasonably set up to reserve adjustment and change space for the execution period that may be up to 20-30 years in the future[13].

1.4 Public-private partnership models: an overview international practice

The PPP model emerged in the United Kingdom. In the following two decades, this new model of public goods supply has been widely used worldwide. According to the Global PPP research institutions PWF (Public works Financing) statistics, 1985~2011 global infrastructure PPP nominal value of 7,751 billion dollars [14], which, in a leading position in Europe, accounting for about PPP nominal value of 45,6 % ,Asia and Australia accounted for 24,2 % , the United States, Canada, accounting for 8,8 % , 5,8% , Mexico, Latin America, the Caribbean accounted for 11,4 % , Africa and the Middle East accounted for 4,1 % [15] .

The UK is an international pioneer of the PPP model, and it is also one of the more mature countries in the application of the PPP model. The earliest PPP model in the United Kingdom was applied to the field of affordable housing, that is, in the 1930s, some local governments in the United Kingdom attracted private capital to participate in the construction and operation and management of affordable housing through private active financing and transfer of government property rights. 1992 British Conservative Chancellor of the Exchequer Roman Lemont consider public spending to support the growing use of private funds, and for the first time the creation of a PPP typical pattern – Private sector financing program (PFI, Private Finance Initiative) [16]. Before 1997, due to fierce opposition from other political parties, the use of this model

was very limited. After the Labor Party came to power, the PFI was vigorously promoted and developed in the UK.

1.4.1 Application of British PPP mode

The PPP model in the UK is roughly divided into two stages, namely the PFI stage and the PF2 stage. Before 2012, PFI was the most widely used PPP model in the UK. The PFI model allows the private sector to participate in the design, construction, investment, financing and operation of public facilities, aiming to improve the quality of public products and better maintain public assets. From 1992 to 2011, more than 700 PFI projects have been completed in the UK, with a total capital expenditure of 54.7 billion pounds [17]. The public areas involved include schools, hospitals, roads, prisons, housing, and waste and wastewater treatment facilities. Among them, the London Underground was built on the basis of a 30-year franchise and adopted the PPP model. One of the advantages of the PFI model is that it makes full use of the project management experience, innovation awareness and risk control technology of the private sector, but PFI also exposes some problems during its operation, such as cost waste, poor contract flexibility, low project transparency, and risk-benefit distribution. Unreasonable etc.

Since 1992, the United Kingdom has launched the PPP-PFI (Private Finance Initiative) with British characteristics, and promulgated the first edition of "Standardized PFI Contract" [18] in 1999, and then promulgated the second edition in 2002, 2004 and 2007, respectively. Third and fourth editions. By 2012, the British government, summarizing the shortcomings of previous PFIs, promulgated the "New Path to PPP" [19], or PF2 for short. PF2 continues to draw on private financing expertise by leveraging the key benefits of PPPs. The PF2 model includes a number of reforms aimed at eliminating waste, improving efficiency, and better protecting the public interest. The UK Treasury published Standardised PF2 Contracts in December 2012.

The "Standardized PF2 Contract"[20] has four main purposes: first, to structure the PF2 contract based on the "New PPP Path", to reasonably allocate risks between the public and private, and to promote a common understanding of this new model of PF2; Second, divide the contract terms into "mandatory terms" (modification is not allowed) and "recommended terms" (in order to adapt to different industries, they can be modified based on this); third, make contract standardization more practical, such as providing standard services Product templates, formatted payment mechanisms, and PPP shareholder agreements, etc.; Fourth, the parties to the contract do not need to negotiate excessively, thereby reducing PPP procurement time and costs.

PF2 new reform [20]

To protect the public interest, the Standardized PF2 Contract includes the

following new reforms:

- (1) Public institutions should make equity investments in PPPs;
- (2) The contractor's services are limited to hard facility management (such as building equipment, electrical management, etc.);
- (3) Under the PPP framework, the government can adopt flexible methods for soft services (such as cleaning, security, greening, etc.);
- (4) The operational and financial information of the PF2 project is transparent (but not too much burden on the contractor);
- (5) the government assumes risks that public institutions are better managed than private institutions;
- (6) Strengthen the PPP structure and attract more investment and financing sources.

The Standardized PF2 Contract connects the above-mentioned reforms in the following aspects: equity in public institutions, more transparency, continuous improvement and value for money.

In order to strengthen the partnership between public and private institutions to better safeguard the public interest, the Standardized PF2 Contract stipulates that the UK government will act as a minority shareholder as a co-investor in PPP projects. The British government formed a new Central Government Unit (CGU, central control unit) to carry out the equity investment of public institutions and enjoy the same rights as private equity investors. The relationship between the CGU and the private sector is embodied through a shareholder agreement. The CPU appoints directors to PF2's project companies. These directors, like other directors of the company, have fiduciary duties.

The benefits of public body equity are: First, increased transparency. Because public agencies are involved in the PF2 project company's strategic decision-making regarding operational management, project performance can be better improved and risks controlled. Second, it reduces the financing cost of the project company. UK government statistics show that the cost of financing for public institutions is 4%, while the cost of financing for private institutions is 8% [21]. Therefore, increasing the investment of public institutions in PPP projects can effectively reduce the financing costs of the projects. Third, you can share the equity returns brought about by the success of the project.

However, in order to ensure the realization of the purpose of equity in public institutions, the injection of equity in public institutions needs to emphasize the following points: First, CGU, as a minority shareholder, has an equity ratio of 30 % to 49 % [8]. The specific ratio is determined based on professional evaluation. Second, the price of equity in public institutions should be determined through adequate market competition. Third, specific government purchasers cannot inject capital into PF2 projects [22].

Make the project more transparent

Transparency is at the heart of PF2. To achieve this goal, the Standardized PF2 Contract has taken a series of measures to ensure the transparency of the PF2 project implementation process. Include:

(1) Allow taxpayers to obtain more project information and enhance their confidence in the realization of value-for-money projects. At the same time, information about the approval process for government projects is more open to the industry, so that the private partner can have more certainty about future plans. First, for all projects in which the government is a shareholder, publish an annual report detailing project information and financial information. Second, all private partners are required to provide information on actual and projected returns on equity, and to post a business plan approval tracker on the government website, with continuous updates on the status of project progress. Third, information on past PPP projects that is easily accessible and understandable by the publishing public

(2) Government procurement agencies are more transparent so that they can obtain better information to manage contracts effectively. Measures include: First, the contract stipulates reports, construction and operation manuals, and maintains annual efficiency reviews. Second, strengthen information clauses and procedures in contracts to ensure continued access to information. Third, for life cycle funds, an open book approach is introduced. Fourth, allow government procurement agencies or local representatives to participate in the board meetings of the project company as observers.

Promote continuous improvement of services

The Standardized PF2 Contract stipulates that the government and contractors should meet annually to review the performance of PPP contracts and explore the efficiency of PPP projects.

(1) Annual contract review

Annual Contract Review measures include:

A. The Contractor shall report to the Government any contractual issues of concern to the Government and the Contractor's performance; the Government and the Contractor shall consider any possible further efficiencies and improvements.

B. The contractor shall submit a proposal to explain: how to deal with the services that have not been performed; how to deal with the issues raised in the annual audit report and the issues raised by the government.

C. The government may provide government requirements regarding the current and future operation of the facility and the impact these requirements will have on service.

(2) Efficiency Review

Promote continuous improvement of contractor services through Efficiency Reviews.

The main measures include: First, the contractor should adopt a continuous service improvement approach, working with the government to identify opportunities for improvement in performance, efficiency, and facility and service performance. Second, every 2.5 years, the contractor and the government conduct a Contract Efficiency Review together to ensure that appropriate services and facilities are provided for the government. Any savings from contract efficiency reviews or annual contract reviews are shared between government and contractors, 75% for government and 25% for contractors. Third, a contract efficiency review should include a meeting between the government and the contractor in which both parties present an overview of the contract's efficiency; a discussion on matters that should be of concern for improvement; and a record of the decisions taken. Fourth, the Contractor shall prepare a contract improvement record and submit it to the government for review 30 days prior to the Contract Efficiency Review Date. Fifth, the contract improvement report should identify the measures taken by the contractor to improve service efficiency and the changes in contractor services and government services that will be taken for contract improvement in the future. Sixth, a financial summary, identifying the cost impact of all efficiency improvement opportunities, such as savings that would not require initiating contract modification clauses, including changes made by the government, or "benefit sharing" (Gain- Share) and "Spend to Save", that is, the government can bring benefits through changes in inputs or services.

(3) Realize value for money

The Standardized PF2 Contract hopes to deliver better value for money for the public interest by: first, introducing equity in public institutions; second, more flexible terms of service; and third, improving the market readiness of projects, such as in Pre-procurement testing of market intent; fourth, adoption of mandatory project timelines and accelerated use of lean procurement techniques; fifth, faster and better public agency review and approval processes; sixth, research into new value for money technology to replace existing value for money guides.

China's legal norms in the field of infrastructure construction have long borrowed from both the Western civil law system and the common law system, and have achieved good results. For example, China adopts the civil law system in its legal system on the one hand, but the common law system (such as FIDIC contracts) is borrowed for engineering contracts. Therefore, on the one hand, we can learn from the civil law system's legislation on PPP, and we can also learn from the experience of the British government on how to implement public interests in PPP projects through PF2 contracts, so as to further improve China's standardized PPP contracts.

In terms of management, the British Ministry of Finance is the competent department of PPP, and the UK Infrastructure UK (IUK) under the Ministry of Finance is fully responsible for PPP work, providing professional management of PPP for all public management departments, especially procurement knowledge, and is

responsible for Approval of PFI transactions in England (PFI transactions in Scotland, Wales and Northern Ireland are approved locally). At the local government level, the British Ministry of Finance and the Association of Local Governments have jointly established Local Partnerships, which are independent of the Ministry of Finance and operate as a company (market investors account for 51% of the shares, and the Ministry of Finance and the Scottish authorities respectively account for 44% and 5%), provide local governments with technical assistance and evaluation services for PFI projects, and help formulate standardized contracts (involving specific project procurement and investment strategies) to invest in projects and companies in a market-oriented manner. After 2010, IUK merged the functions of the PPP working group and the "local partnership organization" to manage and implement the PFI project in a unified manner. As of March 2020, there were 717 projects under the PFI with a total investment of £54.7 billion, of which 648 were in operation [8].

One of the UK PPP cases is the London Underground. The London Underground is owned and operated by the state-run London Underground Company (LUL). In the 1990s, the British government was faced with a serious shortage of subway investment. After weighing, the British government finally chose to upgrade the entire subway system through a government-private partnership (PPP) model, rather than adopting a completely privatized model. After more than 4 years of demonstration and trial implementation, the PPP contract for the London Underground was officially signed between 2002 and 2003. LUL handed over the maintenance and infrastructure supply of the subway system to three infrastructure companies (respectively Responsible for SSL, BCV and JNP companies), LUL still controls day-to-day operations and ticketing, and repays infrastructure companies with fixed and performance payments. The concession period of the London Underground Company is 30 years. Considering the construction standards of the subway, the assessment standards for the operation, and some unforeseen occurrences at the time of signing the contract, a regular review mechanism has been specially added to the contract of the London Underground PPP model: The contracting parties reorganize the newly approved contract terms every 7.5 years, and set up a special arbitration mechanism to ensure the fairness of the re-examination and ensure the effective execution of the contract.

1.4.2 The application of the Canadian PPP model

Canada is internationally recognized as one of the countries with the best use of PPP. Canadian governments at all levels attach great importance to and support the PPP model. Therefore, the Canadian PPP city projects are promoted vigorously, the project operation is standardized, the procurement departments at all levels have rich experience, and the service efficiency and transaction cost advantages are significant. From 1991 to 2013, Canada launched a total of 206 PPP projects with a total value of

more than 63 billion US dollars. The projects involved transportation, medical, judicial, education, culture, housing, environment, and defense industries. Currently, PPP projects in Canada account for about 15 % to 20 % of all public sector projects [9].

In Canada's PPP model, the private sector is responsible for the entire process of PPP project design, construction, operation and maintenance to avoid the risk and responsibility shirk caused by different investors in a single stage; the government does not bear the responsibility for payment before the completion of the project. The payment phase extends to the entire project life cycle, and the premise of payment is that the services provided by the private sector meet the pre-agreed standards.

In terms of management, Canada has established a national-level PPP Center (PPP Canada), the Canadian PPP Center. The center is a state-owned company owned by the Canadian federal government and operates in a business model; it is specifically responsible for assisting the government in promoting and publicizing the PPP model, participating in the development and implementation of specific PPP projects, reviewing and recommending federal-level PPP projects, and formulating policies for PPP management. And best practices, provide technical assistance, etc., and be responsible for cooperation with local-level PPP units. In order to support the development of the PPP model, the Canadian PPP Center has established the "Canada P3 Fund". Local governments at all levels can apply for the fund for transportation, water, energy, security, solid waste treatment, culture, sports, tourism, telecommunications, In maritime, aerospace and other fields, this fund (plus other federal funds) can provide PPP projects with up to 25 % of the project investment. In addition, Canadian governments at all levels formulate infrastructure plans and continuously improve the procurement process of PPP projects.

The Canadian PPP model has its own characteristics:

1. Private sector participation in PPP projects is not simply financing infrastructure projects. The ultimate goal of the project is to provide public services;
2. With expertise and experience advantages, Canada has established a professional organization Responsible for reviewing the complex transaction structure of PPP projects, etc. [25];
3. Introducing competition, Canada encourages private investors at home and abroad to participate in the bidding of PPP projects to encourage innovation and reduce costs;
4. Capital market financing. Canada has established a PPP project. The project bond financing market that provides funds;
5. Focusing on promotion and innovation, the Canadian PPP Center shares and exchanges experience with domestic provincial counterparts, while learning from PPP experience and making corresponding adjustments in accordance with the ever-changing external environment.

1.4.3 The application of the Australian PPP model

Australia in the 20 Century 80 begin to apply years in the fields of infrastructure PPP model, the most common PPP model is the investor of the project company set up a dedicated SPV, the SPV and the government signed a project agreement on project financing, construction and operation, duration of the agreement It is generally 20 to 30 years.

In order to promote economic growth and improve efficiency, the Australian government has continuously increased the scope of private capital participation in the promotion of the PPP model, and has placed more project construction and operation risks on the project company (SPV) to make private capital There was a mismatch between the benefits enjoyed and the risks taken during the same period, which led to the failure of some PPP projects. Since 2000, the Australian government has revised existing laws and formulated special laws to protect the rights and interests of private capital to further promote the development of the PPP model.

In terms of management, Australia has established a national PPP unit, the Australian Infrastructure Authority (IAU), which is responsible for the infrastructure construction needs and policies of governments at all levels across the country. Its business is not limited to PPP. Promoting PPP is only one of its functions. In 2008, IAU worked with the Australian National PPP Forum to formulate a national PPP policy framework and standards, and governments (states) at all levels developed local guidelines on this basis [26]. The above policy requires all levels of government capital Au over 5, 000 All items must be Australian dollar PPP as an alternative mode.

Representative cases of the Australian PPP model are the main stadium, main stadium and Olympic village of the Sydney Olympic Games. Among them, the main stadium for the Sydney Olympic Games investment is estimated 6.15 A \$ billion, including government funding 9, 120 Australian dollars million and government loans 600 AUD million and total investment of 15.8 %; the remaining 84.2 % of the funds from the joint bid [27].

The private consortium (Australia Stadium Company in 2000) established by the organization is responsible for the financing. In addition to investing capital and commercial bank loans, the winning bidder also raises funds through the issuance of member seats.

The Olympic Coordination Bureau signed a total of 9 types of contracts with the winning bidder on behalf of the state government. In addition to the concession agreement, there are also lease agreements (including land lease agreements) and government loan agreements. The Sydney Olympic Organizing Committee and the winning bidder signed the stadium agreement and commercial rights agreement. The government has granted the winning private consortium through an agreement the right to be responsible for financing, construction, and operation and maintenance for 31

years after the completion of the construction. The private consortium entrusted the formation of two companies to manage the stadium and own the assets of the stadium. The company that owns the assets is responsible for repaying the bank's principal and interest, and paying taxes and fees to the local government; the company responsible for management pays rent to the company that holds the assets to rent the venue. The amount of rent is based on the management company's income scale (sources include naming rights, venue rental, commercial Assembly, club fees, merchandise sales, advertising and catering, etc.). After the initial stage of losses after the game, the main stadium has begun to profit.

Thus, the public-private partnership regime plays an important role in the economic development and infrastructure of China. PPP has become an important tool for implementing national strategies, and its development in China has entered a new stage.

CHAPTER 2

ANALYSIS OF THE DEVELOPMENT OF THE PUBLIC-PRIVATE PARTNERSHIP REGIME IN THE PEOPLE'S REPUBLIC OF CHINA

2.1 The development history of PPP model in China

PPP has become an important tool for implementing national strategies, and its development in China has entered a new stage. At this important historical moment, reviewing the development history of PPP in China will play a positive role in absorbing the accumulation of knowledge that PPP is suitable for China's national conditions and promoting the healthy development of PPP. Since its introduction to China in the mid-1980s, PPP development has gone through four stages and now it has entered the fifth stage:

- the first stage-exploration stage;
- phase 2-pilot phase;
- the third stage-promotion stage;
- the fourth stage-iterative stage;
- the fifth stage-popularization stage.

From the mid-1980s to 1993 is the first stage of China's PPP development-the exploratory stage.

There are two backgrounds for the emergence of the exploratory stage: First, the reform and opening up since 1978 has attracted a lot of foreign funds into China, and some of them have tentatively entered the field of infrastructure. Second, in the mid-1980s, there was a debt crisis in moderately developed countries. In order to promote continued economic development, Turkey first developed the BOT model, which was then imitated by other developing countries. Hong Kong businessmen also brought this concept into our country.

At this stage, China has no laws and regulations directly related to BOT, nor does it have a standardized approval procedure. Local governments often report to the central leadership and implement them after obtaining approval.

Representative projects in the exploratory stage include Shenzhen Shajiao B Power Plant BOT project, Guangzhou White Swan Hotel and Beijing International Hotel. The Shajiao B project as a BOT has been widely recognized at home and abroad, and was successfully handed over to the local government in 2000 after the 15- year concession period expired [28]. Due to the earlier time of the project, the document is simpler with only a few pages. The foreign businessmen involved in the project are overseas Chinese in Guangdong, and they also mean to return to their hometown in addition to commercial factors. This is also the reason why the project can be executed smoothly under the simple conditions of the contract. Of course, the project also left

some lessons. For example, the investor designs the project according to the concession period, and many facilities need to be rebuilt after being handed over to the government. This experience was written into the report when Beijing did the BOT research in 1994, and later in the BOT project done by Dayue Consulting. Clear and strict regulations were made on the status of the project facilities at the time of the handover.

Projects in the exploratory stage are initiated by investors, negotiated and agreed with the government, and there is no bidding process. These projects are also spontaneously carried out by the local government, without the attention, summary and large-scale promotion of the central government.

Phase 2-Pilot Phase.

The period from 1994 to 2002 is the second stage of China's PPP development-the pilot stage. I started to research and engage in PPP work at this stage, and it has been 20 years so far. The earlier research on PPP in domestic academic circles also started from this stage.

The work in the pilot phase is organized and promoted by the State Planning Commission, which is different from the exploratory phase. Deng Xiaoping's southern tour at the beginning of 1992 and the 14th National Congress held at the end of that year established the socialist market economy system, providing a theoretical basis for the market-oriented investment and financing reform of infrastructure. After the establishment of the new government in 1993, the State Planning Commission began to study the reform of the investment and financing system, including the feasibility of BOT. At the end of 1993, officials of the State Planning Commission went to the sea to establish Botuo Investment Company, whose English is BOT. After the establishment of Botto Company, it began to operate the Beijing Jingtong Expressway BOT project. For some reason, it failed to succeed, and finally the first company to invest and construct on behalf of the government. In 1994, the State Planning Commission selected five BOT pilot projects-Guangxi Laibin B Power Plant Project [29], Chengdu Sixth Water Plant Project, Guangdong Dianbai Expressway Project, Wuhan Junshan Yangtze River Bridge Project and Changsha Wangcheng Power Plant Project. At the end of that year, a group of officials from the State Planning Commission went to the sea to set up the Dadiqiao Infrastructure Investment Consulting Company, whose English name is Bridge of Trust, also abbreviated as BOT. After Dadiqiao was established, it began to prepare for the Laibin B power plant project. In May 1995, Laibin B was approved by the State Planning Commission. From this, it can be determined that 1994 is the starting point of the BOT pilot project, which can be called the first year of China's PPP.

In August 1995, the State Planning Commission, the Ministry of Electric Power, and the Ministry of Transportation jointly issued the "Notice on the Approval and Management of Pilot Foreign Investment Concession Projects", which provided a legal

basis for the implementation of the pilot projects. This notice was issued after the pilot project was launched. From the notice, it can be seen that first, the focus of the pilot is on power and transportation projects; second, the focus is on foreign investment. Later, when local governments launched their own BOT projects, whether they were projects in the fields of water, gas, and regional development, or projects involving domestic capital, they also took this "Notice" as the legal basis. During the pilot period, the United Nations Industrial Development Organization helped the State Planning Commission and the Legislative Affairs Office of the State Council to prepare a draft of the "BOT Law", but in the end it was nothing.

In addition to national pilot projects, local governments have also launched some PPP projects. Typical examples include the Shanghai Huangpu River Bridge BOT project, the Beijing Tenth Water Plant BOT project, the Beijing Xihongmen Affordable Housing PPP project, and the Beijing Xiaojiahe Wastewater Project. After its establishment at the end of 1996, Dayue Consulting Co., Ltd. participated in the bidding for the BOT project of the Chengdu No. 6 Water Plant as a bid consultant for the United Kingdom Thames Water and Japan's Mitsui & Co., Ltd., and later participated in the consultation of local BOT projects. Strictly speaking, the local BOT projects during this period are also pilot projects, and BOT has not become a regular local investment and financing method. In 1997, Dai Gongxing, deputy director of the Investment Department of the Family Planning Commission of Dayue Consulting, compiled and published the "BOT Project Operation Manual" based on the research results of the Beijing BOT project and the experience of the State Planning Commission's BOT pilot project. Guo Shuyan, then deputy director of the State Planning Commission, served as the honorary editor-in-chief with an inscription, this book became a guide for the operation of BOT projects in various places in the later period.

National and local BOT pilot projects involve many industries, including electricity, tap water, sewage, gas, bridges, and regional development. Some of these pilot projects were successfully implemented, and some failed during operation or implementation. Regardless of success or failure, they have accumulated important knowledge for the subsequent operation of the BOT project. The basic structure of the PPP documents in China is: Laibin B Power Plant-Chengdu Sixth Water Plant-Beijing Tenth Water Plant-Xiaojiahe Sewage Treatment Plant-Xihongmen Economical and Affordable Housing. The first two projects focus on the introduction of international experience, and the latter three projects focus on the digestion and localization of international experience. The tenth water plant project is equivalent to the transition from introduction to digestion. The contract texts of these localization projects Until now, it is still widely referenced and serves as a quasi-standard text.

It is worth mentioning that the Beijing 10th Water Plant BOT project. Although it later experienced historical events such as the relocation of industrial enterprises, the

lack of water in the Miyun Reservoir, the successful bidding for the Olympics, the rerouting of water diversion pipelines, the launch of the South-to-North Water Diversion, the establishment of the European Union and the return of British enterprises to defense, legal changes, etc., this changed history in the history of China's BOT development. Fulcrum project. At the end of 2002, the "Opinions on Accelerating the Marketization Process of Municipal Public Industry" was completed. The release of this document enabled BOT to enter a new stage from 2003.

The third stage-promotion stage.

From 2003 to 2008 is the third stage of PPP development-the promotion stage.

In 2002, the 16th National Congress of the Communist Party of China proposed that China's socialist market economic system has been initially established, and the market has played a fundamental role in the allocation of resources, providing a theoretical basis for the promotion of PPP. The spirit of the 16th National Congress of the Communist Party of China is the background of the Ministry of Construction's "Opinions on Accelerating the Process of Marketization of Municipal Public Services" issued by the Ministry of Construction at the end of 2002. The personal factor of Minister Wang is the reason why this document was issued by the Ministry of Construction rather than other ministries. With the PPP to promote the project, the Ministry of Construction has gradually introduced a number of documents, including the 2004 Introduced in the 126 number the text – "municipal public utility franchise management approach", the introduction of the approach and around the franchise regulations are carried out during this period. The basic legal basis for PPP projects.

With the help of the guidance, the major cities across the country set off a climax of PPP in 2003. SARS occurred in the spring of 2003, and a number of PPP projects were temporarily launched in order to complete the economic indicators of that year. Sewage is the most common PPP project in the promotion phase. At that time, it was catching up with the peak of the construction of sewage treatment plants across the country, including tap water, subway, new town, development zone, gas, road and bridge projects. The more famous PPP projects include Hefei Wangxiaoying Wastewater TOT Project, Lanzhou Tap Water Equity Transfer Project, Beijing Metro Line 4 Project, Beijing Yizhuang Gas BOT Project, Beijing Fangshan Changyang New City Project, etc. With the current PPP concept point of view, when PPP projects are many, but the first official said the PPP is the Beijing Metro Line project.

At this stage, the characteristics of the market economy are very obvious: first, foreign companies, private companies, and state-owned companies compete on the same platform; second, the project bidding process is open and transparent, and competition has become fierce; third, the premium is frequent, and the reform effect of efficiency improvement begins to appear; Fourth, traditional enterprises have been under unprecedented pressure, and their enthusiasm for active reform has increased. Although most of the projects are successful, due to the rapid increase in the number of

PPP projects, some areas are not open enough to think and the project operation methods are not scientific enough, and there are also some failure cases [30].

Since 2007, a wave of thought has emerged in China to reflect on reforms, and there has been a lot of controversy in the field of ideology. Due to the failed projects in the PPP field, individual veteran comrades in the municipal public utility industry also began to reflect on the market-oriented reform of municipal public utilities and raised questions. The competent authorities also began to hesitate in the face of “iron evidence”. The term “Hua” has become very sensitive, and the termination of Xi'an's tap water market reform is a landmark event. Affected by the successful restructuring of Lanzhou Water Supply Company, the management of Xi'an Water Supply Company began to actively plan market-oriented reforms in 2007, and Dayue Consulting was hired as a consultant. Some comrades in the industry believe that the market-oriented reform of Xi'an tap water should be prevented, otherwise the state-owned system of the entire tap water industry will be impacted. On the one hand, they accused Veolia and other international water companies, and on the other hand, they affected the main local leaders on the grounds of water supply safety. In the end, Xi'an's water supply reform ended. Although there is no record of serious breaches of contracts by international companies such as Veolia in China, and the effects of the water market reforms in Lanzhou and Shenzhen have been significant, after Xi'an water supply reform was terminated, marketization in the water industry was considered impractical, even Once at a meeting of the National Development and Reform Commission, an industry person asked who would be responsible if Veolia poisoned the drug.

It should be said that the market economy has won victory in the PPP promotion stage, and it is normal for a few failed projects in large-scale reforms. It is understandable for people in the industry to reflect on reforms. Compared with China's 30 years of reform and opening up, the reform of the municipal and public utilities industry during this period can withstand the test of history and is more standardized than any other industry's reform. There are endless seminars in the industry, and the media pays great attention. Most of the PPP projects in central cities will hire consulting companies to learn from domestic and foreign experience and lessons, and the competition is open and transparent. At one time, people were worried about high premiums. Looking back, a certain overshoot at the beginning of the market is a basic feature of the market economy and an indispensable stage for repositioning the market. From the results, it can be seen that the premiums of Wang Xiaoying and other projects did not affect investment. People's return level, although the premium of Lanzhou tap water has not reached the investor's expected return, the main reason is that the price reform is lagging behind. As long as the Lanzhou tap water price is adjusted to the lower-middle level of the provincial capital, the return on investment can meet the requirements, and the premium is completely a manifestation of efficiency improvement. Later, the country kept mentioning "converting development mode". Let

me see that the conversion of the development mode of the municipal public utility industry should return to the development mode of this stage.

The fourth stage-iterative stage.

The period from 2009 to 2012 is the fourth stage of China's PPP development-iterative stage. This period of time is the fastest growing urbanization in our country, and problems such as ghost towns and unsuitable municipalities are also exposed at this stage.

The financial crisis broke out in the United States in 2008 and China launched a four trillion economic stimulus plan at the end of the year. 2009 became the most severely impacted year for PPP, and many PPP projects that Dayue provided consulting have ceased. For example, a subway project in a provincial capital city in central China completed the PPP plan, which originally required 10 billion funds. Later, three state-owned banks in China gave the project a loan of 10 billion yuan at their own risk; a water diversion project in a separately planned coastal city was preparing a PPP plan at the time, and suddenly we The project team couldn't find customers anymore. They all went to Beijing to wait for Big Pie, and the funds were easily resolved. Banks provide loans unconditionally, and some are for lending or even giving gifts. Like a flood that drowned all crops, social investment entities have completely lost their capital to talk about conditions, the PPP ecology has been destroyed, and some PPP projects in execution have been terminated early by the government.

The shortcomings of the four trillion stimulus plan were quickly exposed, and the government again began to attach importance to private investment. In 2010, the State Council issued 36 new regulations to encourage and guide private investment. The 2009 since the financial crisis affecting foreign investment has declined, banks fear private owners at running and other causes private capital is difficult to obtain bank credit, private capital and foreign hesitated, new 36 bar ineffective.

During this period, state-owned enterprises, especially central enterprises, received a large amount of bank credit. It is said that some enterprises have credit lines of more than 100 billion, and some of them are used to lend to private enterprises. Gradually, local and central enterprises have become popular, and central enterprises have become an important player in the raging urbanization movement. Many of the projects that central enterprises participate in are carried out in the form of PPP. The central enterprises have become the protagonist and changed the rules of PPP. Since it is a docking, the tunes set by the local secretary, mayor, chairman and general manager of central enterprises when eating are the principles of PPP, and market rules such as competition and transparency are relegated to the second line. In the past, a feasibility study was required for a project. At this stage, it is enough to write a few pages of explanation for the development of a new city or a new district.

Of course, some regions at this stage are still relatively standardized, and some competitive PPP projects have continued to be launched, with private capital, foreign

capital and state-owned assets competing on the same platform. For example, the Dalian waste treatment PPP project has undergone full competition, and the waste treatment fee is only more than 50 yuan per ton. The new practices of central enterprises have had a great impact on the behavior of private capital and foreign investment. On the one hand, they learn from central enterprises to avoid competition, and on the other hand, they also seek cooperation with state-owned capital to take advantage of their advantages. In this period, the PPP market did not appear to be full of competition and frequent premiums.

Although there is no policy prohibiting the entry of private capital and foreign capital, the practice of state-owned enterprises, especially state-owned enterprises, with the support of strong government resources prevents private capital and foreign capital from participating in competition, and there are glass doors, spring doors, and national advancement and retreat in society. In order to promote private investment, in 2012, various ministries and commissions of the State Council issued more than 20 detailed rules implementing the new country's 36 rules. Objectively, these rules did not have much new ideas, and the PPP market has not undergone substantial changes.

There have been new changes in the PPP market in the later stages of the repeated phases, and there have been many cases of mergers and acquisitions integration, which are in full compliance with the market law, and mergers and acquisitions integration should have greater development in the next stage.

The fifth stage-popularization stage.

Since 2013, China's PPP development has entered the fifth stage, and the story of this stage is happening. Many people have high expectations for this stage. We will call this stage the popularization stage for the time being, hoping that PPP can become a normal mode in China's economic development.

The 18th National Congress of the Communist Party of China proposed to let the market play a decisive role in the process of resource allocation, which provides a theoretical basis for the popularization of PPP. According to rumours, after the 2013 fiscal work conference, Minister Lou Jiwei gave a special report on PPP. He explained that PPP will play a decisive role in the modernization of national governance, let the market play a decisive role in the allocation of resources, transform government functions, build a modern fiscal system, and promote The role of the healthy development of urbanization has been highly anticipated. Into the 2014 fiscal system organized several official PPP training, the local bureau of the Department of Finance PPP training also after another. The Ministry of Housing and Urban-Rural Development and the Ministry of Finance began to prepare relevant guidance in conjunction with the reform of the fiscal system, while local governments actively reported PPP pilot projects. The National Development and Reform Commission launched the franchise legislation work. The academic and consulting circles are also lively, various seminars and salons are emerging one after another, and various articles

and writings continue to appear. Recently, the Ministry of Finance has also established a special PPP center.

In fact, the promotion of PPP this time has a strong socio-economic background. After ten years of rapid development of urbanization in China, a large number of problems have emerged while achieving achievements. Housing prices have peaked and land finances are unsustainable. Local government debt exceeds RMB 20 trillion and is still growing rapidly. Environmental problems are becoming increasingly prominent, and governance requires a lot of funds. The state-owned system can mobilize a lot of resources, but the waste is staggering, and investment efficiency is getting lower and lower. The debt ratio of central enterprises participating in urban construction has risen rapidly, and their financing and anti-risk capabilities have rapidly weakened. China needs to change its development mode. Improving efficiency, reducing waste, and avoiding detours must be the basic content of changing its development mode. PPP is not a panacea for all diseases, but it can bring innovations in systems and mechanisms, and bring beneficial help in solving current problems.

In the popularization stage, PPP will have new features. First, more opportunities for mergers and acquisitions. If the country wants to promote a mixed-ownership economy, mergers and acquisitions will be an important means to achieve this goal. Second, the simultaneous advancement of multiple PPP projects will increase. Comprehensive consideration of multiple related projects can reduce waste and improve efficiency. Third, the number of Chinese companies going abroad to do PPP will increase. It is inevitable for Chinese companies to go out. Going out to do what they are familiar with and spreading Chinese experience is good for themselves and others. Fourth, summing up experiences and lessons and promoting them will be valued by the new leadership, and only fools will allow the same kind of mistake to happen repeatedly.

Standing at the starting point of the popularization stage, we have some expectations for the great development of PPP. For example, there will be a number of world-class public utility companies in China, and PPP will play a key role in transforming the development mode, so that China has not fallen into a moderately developed country. Instead, the trap has reached a new level.

2.2 Current development status of PPP model in China

The development of the PPP model in China has roughly gone through three stages, namely the exploratory stage, the rapid development stage and the adjustment stage. It is expected that with the central government's emphasis and promotion of the PPP model, it is expected that the PPP model will enter a period of rapid growth in the

next three years. In the early stage, China's profitable infrastructure adopted the PPP model, mainly franchised BOT, the social capital was mainly foreign capital, and the participation of domestic private capital was relatively small; the investment and financing of quasi-operating and public welfare projects was mainly based on government financing platforms. Over the years, the Chinese government has issued a number of PPP-related policy documents. Since 2013, the intensive introduction of policies and the establishment of government and social capital cooperation centers will accelerate the development of the PPP model in China. At present China has a total PPP projects 10081, total project amount 155,935,200 million yuan. China has provided very favorable support for its development and construction in recent years [31].

According to real-time statistics from the Ministry of Finance of the People's Republic of China, as of June 2021, there are a total of 10,081 PPP projects in China, with a total investment amount of RMB 15593.5 billion.

Of them [11]:

- 4,105 municipal engineering projects, Total investment amount of RMB 4499.6 billion;
- 1,390 Transportation Projects, Total investment amount of RMB 5209.1 billion;
- There are 955 ecological construction and environmental protection projects, Total investment amount of RMB 1066.9 billion;
- With 955 items, Total investment amount of RMB 1066.9 billion;
- 628 Comprehensive Urban Development Projects, Total investment amount of RMB 1970.5 billion Yuan;
- There are 495 educational programs, Total investment amount of RMB 286.3 billion Yuan;
- There are 446 water conservancy construction projects, Total investment amount of RMB 388.4 billion;
- There are 325 tourism projects, Total investment amount of RMB 409.9 billion;
- There are 246 health programs, Total investment amount of RMB 192.7 billion Yuan;
- 221 Government Infrastructure, Total investment amount of RMB 212.7 billion;
- There are 200 cultural projects, Total investment amount of RMB 199.7 billion Yuan;
- There are 175 government-subsidized housing projects, The total investment amount is RMB 298.1 billion;
- There are 155 forestry projects, Total investment amount of RMB 235 billion Yuan;

- There are 140 energy-category projects, Total investment amount of 70.6 billion Yuan;
- There are 133 technology projects, Hehe base investment amount of 78.7 billion Yuan;
- There are 133 sports events, Total investment amount of RMB 105.1 billion;
- There are 103 pension projects, Hehe Foundation investment amount of RMB 61.3 billion;
- There are 34 social security projects, Total investment amount of RMB 11.9 billion Yuan;
- With 142 other items, Total investment amount of RMB 220 billion.

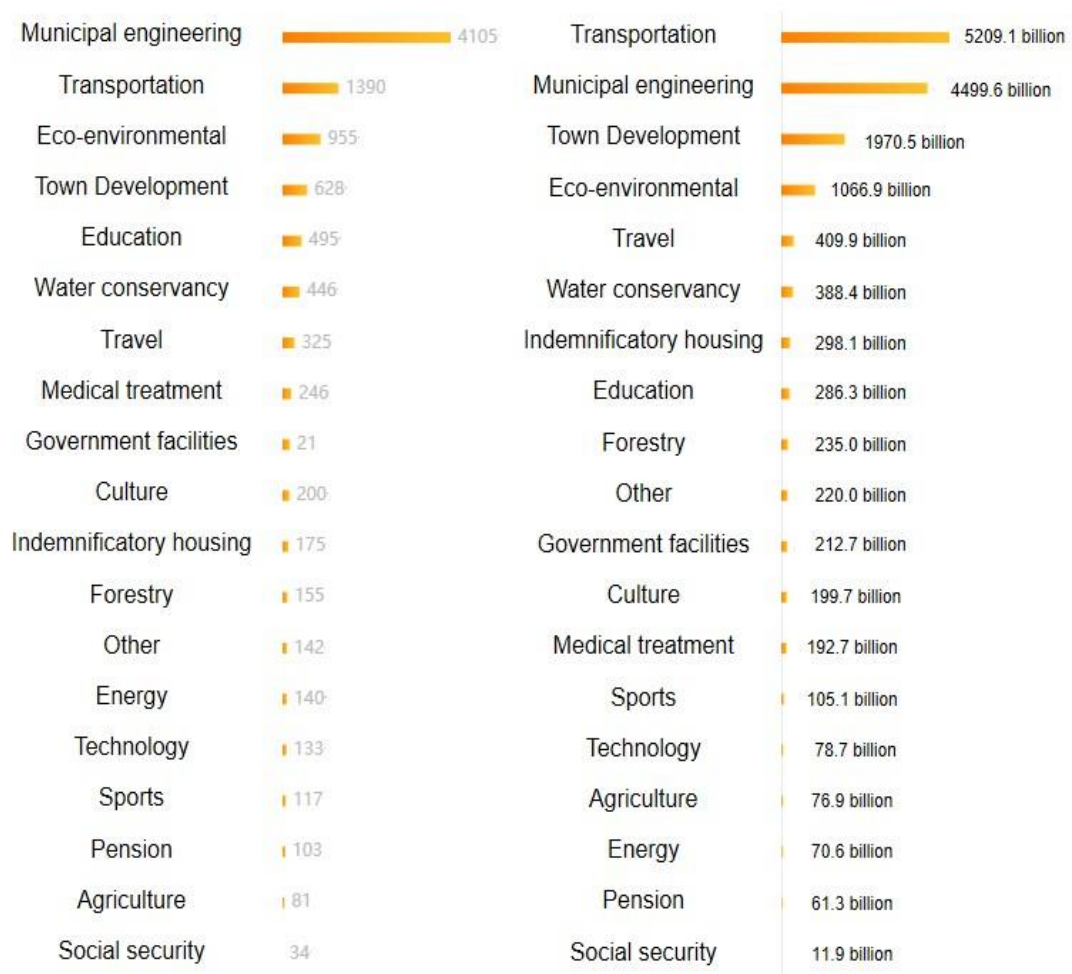


Figure 2.1 – The number of PPP projects and the amount of investments as of June, 2021

On October 20, 2015, the National Development and Reform Commission and the All-China Federation of Industry and Commerce held a teleconference on government and social capital cooperation (PPP) projects in Beijing. Seven provinces including Jiangsu, Anhui, Fujian, Jiangxi, Shandong, Hubei and Guizhou launched 287 projects with a total investment of about 940 billion yuan, involving municipal,

highway, rail transit, airport, water conservancy, energy and other fields.

Deputy Director of National Development and Reform Commission Zhang Yong said at the meeting, promote the implementation of PPP model to deepen the investment and financing system reform, stimulate private investment in energy, improving the efficiency of supply of public goods and services, and expand effective investment is important. At present, from the central to the local, from the government to the enterprise, the enthusiasm for the promotion and implementation of the PPP model is very high, and positive progress has been made.

But at the same time, the participation of private capital is still insufficient. According to expert analysis, private capital still has problems such as insufficient confidence and weak willingness. At the same time, due to lack of understanding of policies, there are still problems such as dispersion and disordered investment. The project will have better earnings expectations of private capital and opening up, help to mobilize the enthusiasm of private capital.

On June 1, 2015, China's "infrastructure and public utility franchise management approach" official purposes. The Measures clarify that franchise operations are carried out in the fields of infrastructure and public utilities such as energy, transportation, water conservancy, environmental protection, municipal administration, etc. Domestic and foreign legal persons or other organizations can participate in the investment, construction and operation of infrastructure within a certain period and scope through open competition. Facilities and utilities and gain revenue. The "Administrative Measures for Infrastructure and Public Utilities Franchising" establishes the institutional innovation in which social capital can participate in franchising rights, and the industry defaults to it as the "PPP Basic Law."

2.3 Public-private partnership classification in China

According to the above classification and the generalized PPP projects existing in China, PPP can be summarized into outsourcing, franchise and privatization (Table 2.1) [12].

Table 2.1– PPP classification with Chinese China

Large class	Specific operation mode	Specific Case
1	2	3
Outsourcing class	Management Contract (MC, Management Contract)	—
	O & M, Entrusted Operation	—
	Building Transfer (BT, Construction I handover)	Nanjing Urban Rapid Inner Ring Eastern Line Project

End of the table 2.1

1	2	3
Charter class	BOT, Construction-Owned-Transfer (Transfer)	Guangxi Laibin B Power Plant, Local Veolia Water Plant Project
	BOOT, Construction-Owned-Operation-Transfer (Transfer)	Dagang Gas One Steam Combined Cycle Power Station Project in South Sumatra Province, Indonesia undertaken by China Chemical Engineering Corporation
	Transfer Operate Transfer (TOT, Transfer One Operation One Transfer)	Hefei Wang Xiaoying Sewage Treatment Plant
	Rehabilitate Operate Transfer (ROT, Reconstruction 1, Operation 1, Transfer 1)	
Privatisation class	BOO, Construction I owns one operation	—
	BBO, Buy One Construction One Operation	—

2.4 Characteristics of the process of the PPP regime in China

The PPP project involved all relatively complicated processes for the management of state-owned assets, and the process framework diagram is shown in the following figure 2.2.

The PPP project process in China includes 15 links:

- 1) Project initiation and screening;
- 2) Evaluation of value for money and evaluation of financial affordability;
- 3) Establish a project team;
- 4) Preparation of project implementation plan;
- 5) Review of the implementation plan for project approval;
- 6) Prequalification;
- 7) Project document preparation;
- 8) Response Document Review;
- 9) Negotiation and Contract signing;
- 10) Project Construction and Operation;
- 11) Performance Monitoring and Payment;
- 12) Interim Assessment;
- 13) PPP project handover;

- 14) Performance testing;
15) Asset delivery.

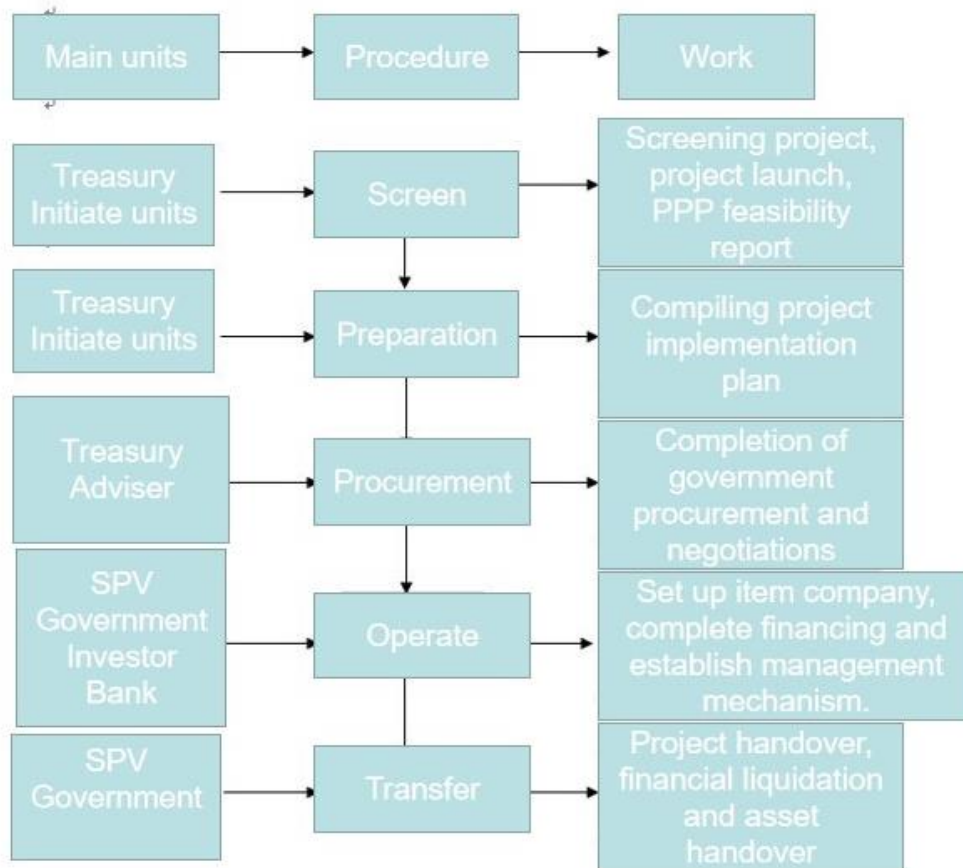


Figure 2.2 – The PPP project in China

(1) Project initiation and screening

Project initiated by the government. The financial department collects potential PPP projects from the competent departments of transportation, housing construction, environmental protection, land, agriculture, etc., and the competent department submits them in the form of preliminary implementation plans. The financial department, in conjunction with the industry competent department, inspects potential government and social capital cooperation projects, and selects the best social capital. The financial department should formulate the project's annual and mid-term development plan based on the screening results. New construction and reconstruction projects shall submit feasibility study reports, project output descriptions and preliminary implementation plans. The documents involved are: initial project implementation plan, project feasibility study report, project output description.

(2) Evaluation of value for money and evaluation of financial affordability

Value for money evaluation

The finance department, the government and the social capital cooperation center, in conjunction with industry authorities, refer to the "PPP Value for Money

Evaluation Guidelines (Trial) " when evaluating value for money , and carry out value for money evaluation from both qualitative and quantitative aspects. . Quantitative evaluation is carried out by localities based on actual conditions. Value for money evaluation conclusions are divided into "passed" and "failed". The approved "projects" have completed the preparation of the value for money evaluation report and reported to the provincial finance department for the record.

Among the documents involved are: Value for Money Qualitative Evaluation Expert Scoring Table, Value for Money Evaluation Report.

Financial affordability evaluation

For projects that have passed the value-for-money evaluation, refer to the "Guidelines for the Demonstration of Financial Affordability of Government and Social Capital Cooperation Projects" to demonstrate the financial affordability. In order to ensure the medium and long-term sustainability of the finance, the financial department should carry out the fiscal affordability demonstration and reach the final conclusion for some government-paid or government-subsidized projects based on factors such as fiscal expenditures and government debts throughout the project's life cycle.

(3) Establish a project team

The government sets up a team responsible for specific PPP projects. The project team is responsible for the preliminary evaluation and demonstration of the PPP project, the preparation of the implementation plan, the inspection of similar projects, the negotiation with partners after the comparison, the signing of the project contract, the organization and implementation of the project, and the transfer of the cooperation period.

In the process of project advancement, the project team is responsible for communication and coordination with the government and enterprises.

(4) Preparation of project implementation plan

The project implementation agency conducts investigation, research, analysis and demonstration, and prepares the project implementation plan. The main contents are as follows: project overview; project implementation agency; project construction scale, total investment, implementation progress, and basic economic and technical indicators such as the standards for providing public products or public services; investment returns, prices and calculations; feasibility analysis, that is, reduction Analysis and estimation of full life cycle cost and improvement of public service quality and efficiency; PPP operation mode; conditions that social asset owners should have; transaction structure; regulatory framework; other matters that should be clear.

(5) Review of the implementation plan for project approval

The financial department relies on the departmental coordination mechanism established by the people's government at the same level to review the project implementation plan in conjunction with the development and reform, finance, urban

and rural planning, land, environmental protection, and water conservancy departments. If the implementation plan is deemed feasible after review, each department shall issue a written review opinion based on their responsibilities. The approved ones will be promoted in accordance with the implementation plan.

The documents involved are [34]:

- a) Planning site selection opinions issued by the planning department;
 - b) Land use pre-examination opinions issued by the land department;
 - c) The environmental protection department issues pre-examination opinions on environmental impacts;
 - d) Pre-review opinion of the Ministry of Construction;
 - e) project opinion or project application documents;
 - f) Expert evaluation opinions (county level);
 - g) Municipal government approval documents;
 - h) Other documents required by laws, regulations or rules;
- (6) Prequalification.

The project team shall prepare prequalification documents according to the needs of the project, and conduct prequalification by comparing the social capital generated after selection. Members of the review team sign the pre-qualification report and assume legal responsibility for their review opinions. If there is any objection to the pre-qualification report, the dissenting opinion shall be signed on the report and the reasons shall be stated, otherwise it shall be deemed to have agreed to the pre-qualification report. The results of the prequalification shall be notified to all social capitals participating in the prequalification. If the qualification of the prequalified social capital changes before signing the PPP project contract, the project implementing agency shall be notified. The documents involved are: pre-qualification documents, pre-qualification reports.

(7) Project document preparation

Project documents should include invitations, instructions for competitors (including sealing, signing, and stamping requirements, etc.), qualifications, credit and performance certification documents and methods that competitors should provide, authorization of the government to the project implementation agency, implementation plan approval and project Relevant approval documents, procedures, requirements for preparation of response documents, deadline for submission of response documents, opening time and location, amount and form of mandatory guarantee deposit payment, review methods, review standards, government policy requirements, PPP project contract drafts (according to the government and society Compilation of the general contract guidelines for capital cooperation projects, where the government grants franchise rights to private capital entities, the franchise agreement can be signed under the PPP project contract framework agreement, including investment, construction, operation, management, and other legal

texts. The project document template needs to be submitted to the people's government at the same level for review and approval.

(8) Response Document Review

The members of the review team sign the review report of the response document (information provided by private capital) and assume legal responsibility for their review opinions. If there is any objection to the review report, the dissenting opinion shall be signed on the report and the reasons shall be explained, otherwise it shall be deemed to agree with the review report.

The review team can be composed of project team members and experts.

(9) Negotiation and Contract signing

The project team should set up a special result confirmation negotiation working group. Conduct pre-contract confirmation negotiations with the best-chosen social capital and the financial institutions that cooperate with them on the variable details of the contract. After confirming that the negotiation is completed, the project implementing agency shall sign a confirmation negotiation memorandum with the selected social capital, and publicize the results and the contract text drawn up according to the documents, response documents and related supplementary documents and confirmation negotiation memorandum. The publicity period shall not be less than 5 work. day.

The project team signs a PPP project contract with the selected social capital that has been reviewed and approved by the people's government at the same level .

The documents involved are: negotiation memorandum, PPP project contract

(10) Project Construction and Operation

a) Establish project branch

The project company of this project is jointly funded and established by a state-owned enterprise authorized by the government and selected social capital . The project team and the financial department shall supervise the social capital to fund the establishment of the project company in full and on time in accordance with the documents and the project contract. Draft relevant legal documents according to the specific form of setting up the project company. The project company is responsible for the operation and management of the project, the preliminary work of the project, the coordination and communication of relevant licenses and the government.

The documents involved are: project company cooperation agreement , project company articles of association , and other supplementary agreements

b) Project construction

First, the selected social capital side , and is responsible for project construction and management signed a formal contract with each unit, including construction contracts, insurance contracts and other consulting, management contracts ; Secondly, the project company responsible for the supervision of the project. In the process of project construction, the government and relevant departments supervise the process of

project development, and communicate with the project company in a timely manner if the contract is not in conformity with the contract, and determine the responsible party. After the project acceptance and trial operation are qualified, the development phase ends and the project enters the operation phase.

c) Project operation

The government signs a franchise agreement with the project company and agrees on the franchise period. During the entire project operation period, the project company shall operate and maintain the project facilities in accordance with the requirements of the agreement. In order to ensure that the operation and maintenance of the project are carried out in accordance with the agreement, the government, lenders, investors and social residents all have the right to supervise the project.

(11) Performance Monitoring and Payment

The project team shall supervise the social capital or the project company's fulfillment of contractual obligations in accordance with the project contract, regularly monitor the project output performance indicators, prepare quarterly and annual reports, and report to the financial department for the record. The government payment obligations involved in the project contract should be incorporated into the government budget at the same level in consideration of the mid- and long-term financial planning and implemented in accordance with the relevant provisions of budget management. The project implementing agency shall pay the social capital or the project company in full and in time according to the actual performance directly or informing the financial department according to the output description agreed in the project contract.

(12) Interim Assessment

The project team should conduct a mid-term evaluation of the project every 3-5 years, focusing on analyzing the operation status of the project and the compliance, adaptability and rationality of the project contract; timely assess the risks of the discovered problems, formulate countermeasures, and report to the financial department for record .

(13) PPP project handover

When the project is handed over, the project team or other institutions designated by the government shall recover the project contract on behalf of the government. Before the recovery of the project assets, the assets involved in the project shall be returned.

The handover form, compensation method, handover content and handover standard shall be clearly stipulated in the project contract. Transfer form includes period termination and early termination of handover; compensation includes free transfer and paid transfer; transfer content includes project assets, personnel, documents and intellectual property; handover standard includes equipment integrity rate and minimum service life.

The project team or other institutions designated by the government shall set up a project handover working group to confirm the handover situation and compensation method with the social capital or the project contract, and formulate the asset evaluation and performance test plan.

After the handover of the project, the business of the project company is suspended accordingly. Therefore, the project company shall go through relevant departments and other relevant procedures according to the contract requirements and relevant provisions.

(14) Performance testing and (15) asset delivery

The social capital or the project company shall transfer the project assets, intellectual property rights and technical legal documents that meet the performance test requirements, together with the asset list to the project implementing agency or other agencies designated by the government, and complete the legal transfer and management rights transfer procedures. The social capital or the project company shall cooperate with the work related to the smooth transition of project operations.

2.5 Characteristics of PPP model development in China

Chinese-style PPP, refers to the follow PPP basic principles on, PPP model and China's national conditions combined with each new theories and methods out of the produce, it is PPP basic principles and China's national conditions of mutual integration product, it is in China the PPP.

(1) Chinese-style PPP is closely related to the operation of the political and economic system.

Unlike Western countries, there is no natural condition for the government to rely on private capital.

The micro reason for the cooperation between the Chinese government and social capital is that local governments at all levels try to get rid of the financing dilemma, and the macro reason is that the central government tries to use this model to realize the market-oriented transformation of government investment and financing.

Therefore, the root of the Chinese-style PPP problem lies in the local government, and the initiator is in the central government. The future formation effect is closely related to the operation of China's political and economic system.

(2) The special purpose of Chinese PPP: financing and fairness

According to the principles of Western PPP, PPP solves the problem of the efficiency of the supply of public goods. However, at this stage, if you ignore the problems of local government debt management and financing management, PPP is likely to not get the real support of local governments.

Moreover, the mixed-ownership reform of state-owned enterprises helps to achieve the fairness goal of non-public economic development through PPP. In other words, only when the financing goals and fairness goals are met, can local governments try to achieve the efficiency goals of public product supply in accordance with the rules of the PPP game.

(3) Chinese-style PPP development constraints: from weaker rules to stronger rules.

2014 late august, China's PPP policy intensive introduction, largely from the joint action of the State Council Development and Reform Commission, Ministry of Finance, People's Bank, the competent authorities of the above industries or sectors, China PPP development actually started by entering a national policy stage [35].

This stage is characterized by clear policy orientation and instructive operating guidelines. The coexistence of policy opportunities and rule constraints for PPP development has enabled Chinese-style PPP to move from a state of loose and weaker rules to a state of preferentially constrained stronger rules.

(4) The partner of Chinese-style PPP: complex social capital

Compared with the West, the situation in China is quite different:

One is that the number of state-owned enterprises is small, but the system is huge and the economic control is strong.

Second, China's private enterprises emerged in the process of a special market-oriented transitional economy, and they were large in number but weak in power.

Third, mixed ownership reform can achieve three goals with one stone. First, it can explore new ways for the reform of state-owned enterprises. It also creates opportunities for state-owned enterprises and private enterprises to cooperate. Finally, it can play an important role in the cooperation between the government and social capital.

(5) The symbiotic relationship between Chinese-style PPP development and comprehensive deepening of reforms

First, the responsibility of Chinese PPP is far greater than that of foreign countries.

Foreign countries generally regard PPP as the scope of project management, and its level is low, while China has raised it to the level of the model of government and social capital cooperation, government governance and even the new engine of economic development. Therefore, the important significance of China's development of PPP is Multiple and unprecedented.

Second, the development of Chinese-style PPP urgently requires comprehensive and deepening reforms. The development of Chinese-style PPP requires a market-oriented transformation of government investment and financing, but it requires a lot of supporting reforms to move forward.

Third, the expected effect of the reform may have a two-way incentive for the development of PPP. Positive incentives create favorable conditions for the development of PPP, but if problems arise in the progress of reforms, it may have a negative impact on the development of PPP.

Thus, in order to implement priority investment projects, the PPP model should solve the problems, on the one hand, of organizing interaction between government, business and public structures, and on the other hand, integrating financial resources of budgets of all levels, funds of state corporations, funds of private investors and attracting borrowed funds.

CHAPTER 3

PROSPECTS FOR THE DEVELOPMENT OF THE PUBLIC-PRIVATE PARTNERSHIP REGIME IN THE PEOPLE'S REPUBLIC OF CHINA

3.1 Implications of the use and development of the PPP model for China

In the context of the deepening of the Belt and Road initiative and the supply-side structural reform of the financial sector, the PPP model in place in China has a wide range of prospects for development:

- China's government debt reduction;
- Solution of investment and financial problems in the infrastructure construction of countries along the route "Belt and Road";
- Investment stabilization and economic growth;
- Macroeconomic stabilization;
- Growth of quality assets for private capital investment.

(1) PPP model will help to reduce the national government debt burden in China.

China's government debt problem is still under control, but the problem cannot be ignored in the long run. The proportion of general government debt in GDP has risen from 24.38 % in 2000 to 46.96 % in 2017, with an obvious upward trend. In the future, with the aging trend of population, the pressure of public finance may continue to rise, and the lessons of some western countries are worthy of China.

In addition, local government debt has big hidden dangers. Due to the mismatch between local government power and financial power, with the rapid economic development, the local government debt is also accumulating rapidly, which has attracted wide attention from the regulatory authorities and all sectors of society. At present, there are no comprehensive and accurate statistics on the balance of various local government debts. The rapid growth of its scale, as well as opacity, may create large systemic risks in the future.

(2) PPP model helps to solve the investment and financing problems in the infrastructure construction of countries along the "Belt and Road" route.

The economic value that the "Belt and Road" initiative can bring to the countries along the routes is huge. According to the World Bank report results, with the comprehensive advance of the "Belt and Road" strategy, the trade volume of participating countries along the Belt and Road is expected to increase by 2.8 percent to 9.7 percent, and increase real income by 1.2 percent to 3.4 percent, helping 32 million people out of moderate poverty with an income of less than \$3.20 per day [37].

The bottleneck of the Belt and Road initiative is that the limited financial capacity of governments along the Belt and Road is difficult to undertake large infrastructure investment. The report notes that about a quarter of countries along the

Belt and Road have reached high debt levels, and some of them have growing medium-and long-term vulnerability, which has become an important factor restricting the Belt and Road initiative. Moreover, "which may bring relevant countries into the debt trap" is also one of the main basis for some Western countries to comment on the Belt and Road initiative.

To actively promote the development of the PPP model, create a sound supporting system, and extend the beneficial experience to countries along the Belt and Road, and attract global private capital to participate in infrastructure investment, which can effectively help the development of the Belt and Road Initiative.

(3) In the short term, it will help China to stabilize investment and growth.

Investment is one of the three drivers driving China's economic growth. In recent years, due to the sluggish external demand, the importance of investment has become more prominent. Among them, manufacturing investment, real estate investment and infrastructure investment are the three major engines supporting total investment growth. But since the end of 2017, fixed asset investment in infrastructure construction fell sharply, becoming one of the important reasons for the economic downturn. Also after the end of 2017, the development of PPP projects also fell into a bottleneck period, which failed to provide effective support for driving infrastructure investment.

(4) Development of PPP model can provide a large number of high-quality assets for private capital, and stabilize the macro economy.

In China's economy, there have long been such structural characteristics: on the one hand, the savings rate is high, but on the other hand, the lack of effective financial channels and high-quality investment assets. Excess savings may be converted into speculative capital and, under certain conditions, may exacerbate abnormal volatility in financial markets, and may also lead to massive capital flight. Historically, China's stock market and real estate market have repeatedly fluctuated sharply under the speculation of speculative capital, which has brought pressure to the stable operation of the macro economy. The huge scale of China's public infrastructure construction and the steady development of PPP model can provide important channels for private capital to invest in public infrastructure and high-quality assets, which is an important way for private capital to obtain high rates of return and stabilize the macroeconomic operation.

3.2 Problems on the current development of PPP model in China

In November 2014, The State Council issued the Guiding Opinions of The State Council on Innovating the Investment and Financing Mechanism in Key Areas to Encourage Social Investment. In the following years, the National Development and

Reform Commission, the Ministry of Finance and other departments successively issued a number of rules and policies. Driven by the policy, the PPP model has achieved rapid development in China. But in the process of development, the PPP model has also encountered some problems:

- 1) Social capital is in reality a debt investment.
- 2) Insufficient participation of private capital.
- 3) Temporarily curbing the trend towards rapid development of PPPs after increased supervision.
- 4) Intersection of different competent authorities and difficulties in delineating their powers, responsibilities and interests.
- 5) Policy instability regarding the PPP model by local authorities. Formation of a policy divorced from reality.
- 6) There is a lack of coordination and support for reforms. The financial mechanism of subsidizing and the municipal state pricing system are imperfect.
- 7) The land use policy of the PPP project is not defined. The PPP project in different regions and sectoral land policy differ.
- 8) Low profitability of PPP projects.
- 9) Regulatory awareness regarding PPP projects is relatively weak.
- 10) There are differences between government and social capital in the distribution of future income.
- 11) After the participation of social capital in PPP projects, investments do not have effective exit channels.

(1) There are more "clear shares of real debt" phenomenon. In the PPP model, social capital should jointly hold shares with the government to share risks and benefits, but in some PPP projects in China, social capital is called equity investment, which is actually debt investment. For example, some local governments may promise to buy back the investment principal of social capital, or bear the investment loss of the social capital party, or promise the minimum yield to the social capital party. The PPP model is alienated into a channel for some local governments to borrow money, which in essence cannot help local governments solve the problem of debt accumulation. To this end, in May 2017, the Ministry of Finance and other six ministries and commissions jointly issued the Notice on Further Regulating Local Government Debt Financing Behavior (№ 50), clearly requiring that various "real bonds" should not exist in the PPP model.

(2) In the social capital cooperated with the government, state-owned enterprises participate more, while private capital participation is relatively insufficient. According to the Quarterly Report of the National PPP Comprehensive Information Platform Project Database released by the Ministry of Finance, by the end of the first quarter of 2019, 9,565 PPP projects involved social capital, including 3,341 private, 136 Hong Kong, Macao and Taiwan, 69 foreign investors, 4,916 state-owned, 1,103 other

unfavorable types, among which private enterprises accounted for 34.9% and state-owned enterprises accounted for 51.4%. From the perspective of the landed projects, the investment of private capital background accounted for 33.5% of the total investment [38].

In the social capital cooperated with the government, private capital accounts for a relatively low proportion, and state-owned capital accounts for a relatively high proportion, which makes the investment risk of PPP projects largely concentrated in state-owned enterprises, raising the leverage ratio of state-owned enterprises, and also indirectly increases the contingent debt pressure of governments at all levels to a certain extent. To this end, in November 2017, SASAC issued the Notice on Strengthening the Risk Control of PPP Business of Central Enterprises, strengthening the supervision of central enterprises' participation in PPP projects, and restricting the scale of central enterprises' participation in PPP projects.

(3) Under strict supervision, the development of PPP model has entered a bottleneck period. In 2017 and 2018, the regulatory authorities frequently issued a series of rules and policies for the development of local government debt and PPP model, and strengthened the supervision of the development of PPP model. Under strong supervision, the development of PPP encountered a bottleneck, the number of PPP projects and total investment reached a high at the beginning of 2018, and then declined, to the second half of 2018 stabilized, but the growth is still weak, which also led to the PPP model failed to play its due role in stabilizing China's investment growth.

The strengthening of supervision is to promote the healthy and sustainable development of PPP model, but after strengthening supervision, the trend of rapid development of PPP has been temporarily contained. This, shows that there are some internal deficiencies in the previous PPP mode, which still needs to be further improved and adjusted to gradually enter a standardized and perfect development path.

(4) The competent authorities overlap, and it is difficult to distinguish the boundaries between powers, responsibilities and interests.

The difficulty of Kowloon water control with Chinese characteristics is particularly prominent in the PPP work: the National Development and Reform Commission in charge of projects, the Ministry of Finance, the Ministry of Housing and Urban-Rural Development, the China Banking Regulatory Commission in charge of banks, and the PPP involves many departments, but who is the first competent body of PPP is not clearly defined. In particular, there is a large overlap of powers and responsibilities between the Ministry of Finance and the National Development and Reform Commission, and even some officials from the NDRC have publicly accused the Ministry of Finance of establishing a PPP decision approval mechanism as a "serious waste of resources". In practice, local governments reflect that no one can be avoided, and there are obvious differences between the two sides in promoting PPP:

the Ministry of Finance pays attention to "stability", and the National Development and Reform Commission pays attention to "push".

The first responsibility of the Ministry of Finance is to manage national financial funds. The starting point is to strictly control the quality of PPP projects, avoid local governments packaging fake PPP projects, and use them as a tool to resolve local debt problems. The first responsibility of the NDRC is macroeconomic management, and the first priority under the current situation is "steady growth". As a result, the NDRC pays more attention to the number and scale of PPP projects, and promotes the large-scale application of PPP in infrastructure and public utilities.

Two ministries naturally created two sets of statissues. The two departments of the National Development and Reform Commission and the Ministry of Finance are fighting separately in PPP legislation, guidance, projects and promotion. It is extremely rare for two real power departments to "rush" documents in the same field in one day. On December 4, 2014, for example, the Ministry of Finance issued the notice about the government and social capital cooperation demonstration project implementation issues and the government and social capital cooperation mode operation guide (trial) ", released the Ministry of Finance first 30 PPP demonstration projects, and from the project identification, preparation, procurement, execution, transfer, standardize the operation process. On the same day, the NDRC issued the "Guiding Opinions on Cooperation between Government and Social Capital", which set forward specific requirements for PPP in terms of project scope of application, departmental joint review mechanism, partner selection, standardized price management, performance evaluation, and demonstration and promotion.

If the functional boundaries between ministries and commissions are not clear, it is inevitable that there will be repeated departments, wasted legislative resources and even conflict, resulting in local governments not knowing what to do.

Under the guidance of the framework system of "legal norms + supporting policies + operational guidelines", PPP related policies have been introduced intensively, and the policy system has been gradually improved, providing corresponding guidance for the operation and implementation of PPP. However, it is a pity that the authoritative PPP legislation has not been issued yet, and the existing ones are mostly departmental rules and regulations, with low levels, insufficient legal effect, and there are conflicts. In short, the current situation of China's PPP policy system is that the upper law system is not established and the lower law is repeated in conflict.

In January 2016, the Ministry of Finance took the lead in completing the collection of opinions on the Chinese Government and Social Capital Cooperation Law (draft)), but the official version has not been released. In May 2016, the draft Legislation on Chinese Infrastructure and Public Utilities Franchise led by the National Development and Reform Commission was completed. After the NDRC worked with the relevant departments to improve the draft legislation, it tried to submit it to the

State Council as soon as possible, marking the prospect of the PPP ranking law. But in the published version, there is a big debate between the two bills: What is the difference between a PPP and a franchise?

The Ministry of Finance advocates a broad PPP, while the NDRC is easier to grasp the connotation and extension of franchising, and finally adopted the concept of franchising in combination with the past practice of implementing PPP projects with the concept of franchising and the legislative practices of international organizations. Thus, the relationship between PPP and franchise is vague, which is the source of controversy. In view of the great expansion of the domestic franchise scope, and has not been clearly defined, and the official documents also mostly confuse PPP and franchise, but in theory, the two are not the same, there is still some controversy.

The "secondary bidding" problem is a typical problem caused by the unclear boundary between PPP and franchise. Existing PPP projects mostly include construction part, PPP project social investors and the selection process of construction units, the bidding regulations on the implementation of article 9 of paragraph 1 (3), has through the bidding method selected franchise project investors can construction, production or provide, can not for bidding, hereinafter referred to as "two bid and a bid". But in practice, the operation mode is different, some places are more cautious, think "two standard and a standard" applicable object for the franchise project, therefore, must find the corresponding basis, prove that winning PPP project belongs to the category of franchise, can "two standard and a standard", otherwise, also need to secondary bidding, greatly damage the interests of social capital.

Therefore, on the PPP legislation, on the one hand, to resolve disputes, unified legislation. Clarify PPP supervisors and participating institutions, coordinate and improve the legislative work, and issue PPP legislation in the future. And straighten out the division of labor among functional departments, form a unified and clear management ownership of the central and local governments, effectively clarify the responsibilities and obligations, is conducive to project promotion and management, and avoid the generation of disputes and conflicts. On the other hand, fill in the blank, improve the PPP legislation. For the blind area on PPP in the law, such as land, tax, audit and other issues, should pay timely pay attention to, improve the supplement, to avoid the generation of disputes.

(5) Local governments are lack of credit, weak sense of contract, and heavy concerns of social capital.

In the context of increasing local financial pressure and shrinking financing channels, many local governments only regard PPP model as a new financing tool. The purpose of vigorously promoting PPP model is to replace the original local financing platforms and try to impose debt leverage on social capital. The concept of "benefit sharing and risk sharing" has not been correctly explained.

First, the risk of policy change. Some local governments may not formulate new

policies without considering the interests of social capital, and arbitrarily formulate new policies or change the original policies. Such as Beijing "bird's nest" stadium PPP project put into operation, according to the contract, investors can through the ticket revenue, but considering the "bird's nest", the investors cannot continue to operate in accordance with the agreement, therefore, in the formal introduced after a year, the "bird's nest" shareholding reform, forcing citic consortium to give up 30 years of franchise, to permanent shareholder identity, lead to the cooperation bankruptcy.

Second, the government fulfills the risks. In order to promote cooperation, some local governments will make guarantees divorced from reality to social capital or promises difficult to fulfill in the early stage, resulting in shrinkage or complete failure to fulfill during the cooperation period. Such as Changchun city government credit drainage company and huijin company investment of huijin China (Changchun) sewage treatment co., LTD., responsible for the construction and operation of Changchun north suburb sewage treatment plant, for 20 years, but in the later period, the drainage company began to default sewage treatment fees, cause after repeated negotiations, sewage treatment plant began to stop production, and the sewage directly into the songhua river.

The third is the risk of government change. Due to the long cycle of PPP projects, the operation period of projects is usually 20-30 years. After some local governments change or change their leadership, the policies of the last government are incoherent or even not recognized. "New officials do not buy old accounts", change a set of leadership to change a set of policies, the old and new governments have different attitudes towards the PPP model, different supervision methods, do not fulfill the cooperation agreement, all these make the social capital side often fail to do, very passive.

Considering the local government past credit overdraft problem, "the contract is a piece of paper, signed to change", lead to social capital to participate in PPP has "three fear" concerns (fear of trap, fear of default, repeated), so, subsequent government departments to participate in PPP must change mentality, improve contract consciousness, adhering to the "benefit sharing, risk sharing" cooperation concept, fulfill the contract, ensure the smooth progress of the PPP project.

(6) Supporting reform and system construction are not in place, and social capital participation in the operation is very passive

The mechanism innovation of PPP is reflected in "making the market play a decisive role in resource allocation" and "better playing the role of the government", which is also the due meaning of deepening the reform at the present stage. As a market-oriented supply management mode, PPP model can break through the market monopoly, open up market access, and make market entities become the main force of infrastructure and public service supply, so as to improve the quality and efficiency of infrastructure and public services. Therefore, PPP is not only a new choice of financing

mechanism, but also a strategic choice. PPP should be improved from financing perspective to management mode innovation, and then from management mode innovation to the height of comprehensively deepening reform.

The ideal is beautiful, but the reality is relatively cruel, China is now in the test period of deepening reform, supporting reform and system construction is not in place, so that the social capital operation is very passive, difficult.

In 2015, the Ministry of Finance in urban water supply, sewage treatment, garbage treatment, heating, gas supply, roads, and Bridges, public transportation infrastructure, public parking lot, underground public utility in PPP project promotion work, although effective, but still difficult, mainly for municipal public related price system is fuzzy, financial subsidy mechanism is not yet perfect, restrict the reasonable calculation of social capital investment returns. Considering many projects have certain public welfare, cannot produce stable cash flow, belongs to the category of non-operational projects, need the government according to the social benefits generated by the project, give the corresponding subsidies, namely "shadow pay", but the existing municipal public related field price system and financial subsidy mechanism is not perfect, has not formed urban water supply, gas supply industry upstream and downstream price linkage mechanism, lead to comprehensive measure difficult to advance, cannot provide reasonable return on investment, for social capital. For example, the urban water industry is a capital-intensive industry, and a single project is at least hundreds of millions of yuan, or more than one billion yuan. With the opening of the water market, many social capital involved in water PPP project, solve the government funding difficulties, but the problem, the downstream water price reform does not reach the designated position, still by the government pricing, has not yet let go, lead to social capital is relatively weak, bargaining space is small, income to guarantee, and the root of the problem is the reform of systemic does not reach the designated place.

No doubt, PPP is a major reform, will originally provided by the government alone infrastructure and public service construction by the government and social capital cooperation, is a process of innovation, including theoretical innovation, governance innovation, system innovation, model innovation, etc., so in the process of PPP project, should step by step, deepen reform, ensure supporting reform synchronization, improve the fiscal subsidy mechanism, safeguard the legitimate rights and interests of social capital.

(7) The PPP project land use policy is not clear, and the project land is difficult to obtain.

The project land use policy is not yet clear, how should the PPP project company obtain the project land use right? How to ensure that the social capital that obtains the project franchise can also obtain the land use right of the project through bidding, auction and hanging? The answers to any of these questions are unknown.

At present, there are four modes of transfer of project land acquisition, transfer, lease, pricing, investment or investment. According to Article 54 of the Land Administration Law of the People's Republic of China, the land for urban infrastructure and public welfare undertakings can be obtained by means of allocation with the approval of the people's government at or above the county level. However, the operation and understanding of different places are not unified. For example, two PPP projects operated in a city during the same period, namely, water supply project and sewage treatment project, are all completed through public bidding. From the nature of social capital, the former is a Sino-foreign joint venture limited company, and the latter is a wholly foreign-owned limited company. The concession agreement signed by the government and social capital, "party a shall ensure the right to land management department before the effective date and the project company signed the land use right transfer contract, to ensure that throughout the concession period, the project company to transfer project site land use right, the purpose of the project for the legal and exclusive use of the project site, and to obtain the land use right certificate as proof". This thought that under this layer of security, the project company can wait for the land use right certificate, but the result is not satisfactory. After 10 years of long waiting, the sewage treatment project company finally got the allocated land use right certificate, but the water supply project company failed to succeed. In response, the land administration department of the city replied: "If the subject of the land is a state-owned enterprise and operates in a non-profit way, the land can be allocated upon approval; if the subject is a foreign investment, it can choose the land transfer or land lease". However, why sewage treatment projects can get allocated land use right certificate, the relevant departments can not give a reason.

In addition, the transfer of land use rights is a more popular way for the government, but there are still some doubts. If determined after consultation by the government land use right within a certain number of years to social capital, usually have agreement transfer and auction hang two ways, but the agreement has clear procedural limits, according to the agreement grant state-owned land use right regulation article 3: grant state-owned land use right, except in accordance with the provisions of laws, regulations and rules, should adopt bidding, auction or listing, can take the agreement. Agreement transfer belongs to a relatively strict control of the transfer mode, which has the corresponding preconditions. And even meet the precondition of agreement transfer, may not be one to one agreement transfer, because the same according to the regulation article 9: (even by agreement, if the land supply plan) in the same land has two or two intention of land users, the city and county people's government of land and resources administrative department shall, in accordance with the bidding auction listing for state-owned land use right regulations, take bidding, auction or listing. If adopt for hanging way, in addition to pay the corresponding land fee, increase social capital investment, there are some concerns,

franchise bidding and project land use right is separate two processes, does not guarantee the project franchise social capital can win land use right at the same time, thus increase the uncertainty of the project.

In addition, the PPP project different regions and industry land policy also different, Beijing, Sichuan, Henan and other places issued relevant land policy, guide the PPP project land use, relevant departments of railway transportation, pension services, cultural industry PPP project land supply, but overall not too system, relatively scattered, therefore, should make up for the absence of the ministry of land and resources, active role, develop a comprehensive PPP project land policy, clear PPP project land acquisition.

(8) PPP projects are mostly low-profit projects, with a yield of generally 6% -8%. For social capital, compared with the huge capital investment in the early stage, the income is low and not attractive.

Recently, in Jiangsu, Anhui, Fujian, Fujian, Jiangxi, Shandong, Hubei, Guizhou and other seven provincial development and Reform commission selected projects for private enterprises, the yield differentiation, strong profitability of the project, the expected yield can reach 8% -9%, slightly lower project is about 4.9% -6.5%. In 2014, the analysis report of the top 500 private enterprises showed that the average level of return on equity was 14.04%. Although the data will be reduced under the recent economic downward pressure, it will still exceed the returns of most PPP projects, resulting in low enthusiasm of private capital, especially private enterprises, to participate in PPP projects.

At the same time, some grassroots governments are not willing to make "good" projects with high "gold" and high yield into PPP mode, and report some PP projects with low funding source and PPP; and a large number of "poor" project identification "and" project preparation " stage, resulting in slow project progress and low landing rate.

Generally speaking, capital is profit-seeking and will guide capital to profitable areas. However, the yield of PPP projects is low, so it is naturally difficult to win the favor of social capital.

In view of this problem, on the one hand, social capital should clearly realize the fact that PPP projects are mostly low-profit projects and reasonably estimate project returns; on the other hand, the government should change its thinking, treat social capital fairly and ensure project quality; at the same time, improve project returns through overall development.

The PPP project requires a large amount of capital and a long cycle, which poses a great test to the fund-raising ability of social capital. Financing difficulties are still the key factor hindering the development of PPP.

First of all, the term mismatch, due to the PPP project duration is longer, generally 20-30 years, namely the project party need to get long-term stable financing,

but the general financial institutions considering the uncertainty and liquidity problems, when hesitant, reluctant to participate, hope to only part of it, this is the contradiction between the project and capital, "short" with "long" problem, must be both liquidity and profitability.

Secondly, the financing method is relatively single, the existing PPP projects are mainly debt financing, and equity financing is relatively insufficient. Traditional commercial loans are the main mode of debt financing, and the project loans commonly used for international PPP projects have not been fully used.

There are many reasons:

1. China has not yet established a financial service system for project financing, and it is difficult to realize bank loans pledged by the future income and assets of the project. Although the CBRC has issued the Guidelines on Project Financing Business, in practice, project financing is rarely guaranteed by project future income and assets.

2. Financial institutions are unwilling to take risks, or they are used to earn interest rate spread, the lack of innovation motivation, and the unsolved problems such as equity structure design and equity exit, resulting in the little use of equity financing in the financing process. Such a single financing method leads to a very limited amount of financing funds, compared with the huge amount of investment in PPP projects, it can be said to be a drop in the bucket. At the same time, indirect financing dominated by commercial credit has too high interest rate and short cycle, which is difficult to adapt to the characteristics of low income and long cycle of most PPP projects.

Finally, the mortgage credit increase is insufficient. Due to the surge of non-performing loan balance and the surge of non-performing loan ratio in recent years, commercial banks are more cautious in the process of credit supply. So far, the lending process, review standards and guarantee requirements of commercial banks on PPP projects are no different from those of traditional lending.

However, PPP projects are difficult to meet the requirements of PPP: first, the ownership of assets is unclear, with the management right; third, the PPP projects are mostly projects under construction, the stock assets are difficult to meet the mortgage requirements of commercial banks, making the originally difficult financing road more tortuous. Considering the above factors, financial institutions are heavily concerned when participating in PPP projects, and prudently participate in PPP projects, resulting in a huge funding gap for PPP projects, and it is difficult to implement.

(9) In the new round of PPP boom, PPP is growing rapidly at an unprecedented rate, but the regulatory awareness is relatively weak, some practical problems have gradually emerged, the development of PPP into a bottleneck period.

Problems mainly manifested in the following three aspects: one is the lack of local government regulatory consciousness, heavy financing management, PPP project can indeed through the introduction of social capital, relieve local financial pressure, but improve the quality and efficiency of infrastructure and public services projects the

starting point is almost forgotten, cause some social capital using regulatory loopholes, packaging stock project, diddle financial subsidies, seriously deviate from the PPP project.

Second, PPP projects involve multiple departments of municipal administration, transportation, finance and development and reform, which require social capital to go through the process of approval, resulting in the problem of "repeated approval", resulting in the long decision cycle of PPP project approval and high time cost. And after project approval, it is difficult to change according to external factors, timely adjust the PPP project plan, thus affect the PPP project, such as Beijing's first international bidding BOT mode of municipal water supply project, Beijing tenth project audit cycle is too long, too long, delay, many variables, took 16 years to build, not only failed to improve efficiency, but increased the cost of the government and enterprises, is not worth the gain.

Third, the lack of performance evaluation system. Most of PPP projects are infrastructure and public services, which serve the public.

Therefore, the benefits of the public can be more comprehensively reflected in the performance evaluation, but in practice, the public supervision is missing, and the performance evaluation becomes a mere formality.

A perfect exit mechanism is an indispensable guarantee for social capital to participate in the "feast" of PPP projects. However, in the process of PPP promotion, local governments emphasize access guarantee rather than exit arrangement.

In December 2014, the National Development and Reform Commission issued the guidance on the government and social capital cooperation, in strengthen the government and social capital cooperation project standard management part, the exit mechanism as an important link to standardize, and put forward the government to "relying on all kinds of property rights, equity market, provide diversified, standardized and market-oriented exit channels for social capital. "But the specific operation process is not clearly specified.

In practice, due to equity change limit more, plus the conductivity and crossover between the PPP contract system, especially the financing contract equity change restrictions, makes social capital is difficult to exit normal way, often accompanied by other default or risk burden, need through government repurchase, project shelved or in arbitration, litigation and other high cost, abnormal way to exit.

Therefore, the arrangement of the existing policies for the exit mechanism of social capital focuses on the temporary takeover under abnormal circumstances, and standardizing and refining the withdrawal of social capital under normal circumstances is less innovative, which needs to be supplemented and improved.

Therefore, in the context of a sound exit mechanism, social capital is worried that it is difficult to recover the early investment, and when participating in PPP projects, it is difficult to participate without reservation.

(10) There are differences between the government and social capital on the distribution of future income, resulting in the social capital cannot obtain a satisfactory rate of return

In the face of the government, social capital bargaining power is weak, and the return rate is low. For example, in 2015, Chengdu requiring the cost of PPP projects not to exceed 50% of the benchmark loan interest rate of commercial banks for more than 5 years, and calculated on the benchmark interest rate of 4.9% at that time, the maximum should not exceed 7.35%. For example, according to the statistics of Lu Yuantang et al. (2019), as of September 2017, the return on investment of sewage treatment PPP projects in China is generally between 5.5% -8%, but in some areas, only 5% -6.2%. For projects with an investment scale of less than 1 billion yuan, the return rate of about half of the projects is less than 6%. The yield to maturity of 20-year Treasury bonds is generally around 4%, and the comprehensive interest rate of private financing in Wenzhou issued by the Wenzhou Financial Office is generally above 10%. In contrast, social capital can have little premium space after taking risks in PPP projects and participating in project construction and operation.

The rate of return is low, it may lead to "clear real debt", poor enthusiasm of private capital and other problems.

First, it will cause social capital to participate in PPP projects.

Second, even if social capital participates in PPP projects, it is not willing to invest in a long term, but tries to exit the project in advance within a relatively short term through various "clear stock and real debt" methods. In addition, compared with state-owned enterprises, private enterprises have certain disadvantages in obtaining bank loans, with higher capital costs and weaker bargaining power against the government. This further limits the enthusiasm of private enterprises to participate in PPP projects, and the phenomenon of "clear stock and real debt" may be more prominent.

The low rate of return on PPP projects may be related to two factors.

First, there is a lack of clear policy guidance on how to determine the "reasonable rate of return". According to the Guidelines on Financial Capacity of Government and Social Capital Cooperation Projects (Finance [2015] No.21) issued by the Ministry of Finance in 2015, the reasonable rate of return should be based on the interest rate of medium-and long-term loans of commercial banks and based on various factors. However, for different regions and industries, we should be added on the basis of the benchmark interest rate, and whether the future can fluctuate according to market changes.

Second, local governments can lack enough financial resources for PPP projects. In recent years, the local government debt problem has been more serious, and according to the financial [2015] 21 provisions, the expenditure of all PPP projects in that year should not exceed 10 % of the general public budget expenditure ratio. As a

result, some local governments could not even pay PPP project companies on time.

(11) After social capital participates in PPP projects, the investment lacks effective exit channels and capital liquidity.

As mentioned above, the fixed cost investment of public infrastructure is large in the early stage, and it takes a long period of continuous operation in the later stage to benefit. Taking PPP projects in China in recent years as an example, from the perspective of the number of projects, the number of cooperation term in 11 to 30 years accounts for about 80% of the total number, the number of projects in 1 to 10 years accounts for less than 20%, and from the perspective of project amount, the amount of cooperation term in more than 10 years accounts for more than 90% of the total amount.

However, it is difficult for social capital to accept such a long project operation and return cycle. For example, in June 2018, Yi Gang, governor of the People's Bank of China, pointed out that the average life expectancy of small and medium-sized enterprises in the United States was about 8 years, that of 12 years, and that of small and medium-sized enterprises was about 3 years. For example, according to the Report on the Development of Chinese Private Enterprises, the average life expectancy of private enterprises in China is only about 2.9 years.

China's PPP model is still in the early stage of development, and has not yet provided a sound channel for the withdrawal and circulation of PPP investment funds. To a large extent, this leads to the widespread existence of various non-compliant capital exit methods, and social capital cannot bear the investment cycle of more than ten years, and chooses to recover the investment principal and interest in advance in the way of "clear stock and real debt". In addition, as the survival cycle of private enterprises is generally shorter, their affordability to long-term investments are weaker than those with relatively stable state-owned enterprises, which further weakens the attractiveness of PPP projects to private enterprises.

China's PPP model has emerged for a short time, and the current period problem is relatively not very prominent. In the future, with the continuous operation of existing PPP projects, the problems of long term and insufficient liquidity will become more prominent.

3.3 Development directions of PPP model in China

Based on the current situation of the domestic PPP legal system, the current policies and regulations are sorted out, the conflicting institutional obstacles are eliminated, and the PPP system standard system is constructed according to the framework of "law + policy + guidance + standard contract".

Accordingly, we offer:

- 1) Improve the legislative level, unify the legislation and standardize the PPP model.
- 2) Formulate a standard PPP contract and improve the contract management system.
- 3) Strengthen the institutional building of the PPP management center, establish a manual for PPP project procurement and contract management within the PPP management center.
- 4) Clarify financial constraints.
- 5) Dynamic profit adjustment.
- 6) Scientific allocation of risks.
- 7) Implementing comprehensive oversight.
- 8) Strengthen personnel training.
- 9) To reasonably increase the return rate investment and maintain the enthusiasm of social capital investment.
- 10) Improving pricing mechanism.
- 11) Increase local government spending on PPP projects.
- 12) Improve policy and planning, and introduce more long-term social funds for PPP projects.
- 13) Promote the development of the capital market and provide more effective exit mechanisms for PPP project investors.
- 14) Using the PPP model when investing in the infrastructure of countries along the "Belt and Road" route.
- 15) To improve the PPP financing market.

(1) Improve the legislative level, unify the legislation and standardize the PPP model. The particularity of PPP determines that special legal provisions should be made on project companies, bidding and tax incentives, which means that there must be some conflicts between PPP legislation and general regulations. The provisions made by the competent departments of The State Council within their respective management scope can only be applied to some industries, and all from the perspective of their own management, laws and regulations and documents. In many cases, they cannot be connected with each other and lack overall and systematic. Therefore, it is necessary to upgrade the legislative level and standardize the PPP model through legal form, so as to ensure that the interests of all parties are not damaged in PPP projects.

(2) It is to formulate PPP standard contract, strengthen contract management. In the PFI Contract Standardization Edition 4, including contract duration, project start, service start delay, accident protection, guarantee, service pricing scheme, service standards, service supervision, facility maintenance, service changes, legal changes, inflation, asset valuation, early service closure, intellectual property rights, dispute settlement and legal government intervention. In China's existing contract management

policy, including the urban water supply franchise agreement model text, the urban sewage treatment franchise model text, etc., although the corresponding pricing, risk.

(3) Strengthen institutional construction standards, there are still many problems such as price adjustment, risk control, need to further PPP standardization contract, improve and strengthen the contract management.

From the international experience, setting up a PPP management agency is a common practice. The Treasury Infrastructure Authority is responsible for policy making for all UK PFI projects and provides professional management of PFI, particularly for all public authorities, with knowledge on procurement. Provide PPP project support to local governments through recommendations and guidelines to help them develop standardized contracts. The National Audit Office and the Public Utilities Administration Commission are responsible for investigating and commenting on important PFI policy aspects.

In view of the above problems in PPP supervision (p.3.2), it is suggested to clarify the competent department of PPP project, correctly understand PPP, strengthen the supervision awareness of the project operation process; secondly, establish PPP project approval mechanism, implement joint examination and approval in the preliminary procedures, improve the review efficiency and simplify the operation procedures;

Finally, the public evaluation indicators should be added in the performance evaluation link to urge social capital to improve the quality and efficiency of services.

At present, the Ministry of Finance has added the PPP Management Center with the PPP Management Center, responsible for the PPP pilot promotion work. It is suggested to further strengthen the institutional construction of PPP management center, set up PPP project procurement and contract management guidance under the PPP management center, and use the technical consulting institutions with professional knowledge (such as transportation, sewage treatment, etc.) under the existing industry ministries and commissions, so as to meet the application needs of PPP model in various industries. PPP Management Center should strengthen the development and reserve of PPP projects, and determine whether a project can adopt PPP mode strictly according to the concept of "value for money" and quantitative calculation. The successful implementation of a PPP project requires a long preparation, usually 2 to 3 years. Due to the lack of "value for money" evaluation system in China and the unclear understanding of the applicable types of PPP projects, it directly leads to the blindness of PPP mode selection in China, which has become one of the important reasons for the failure of many PPP projects.

(4) Clarify financial constraints

PPP projects are all public projects invested by the government, especially privately funded projects. Although they are paid to investors after output, the total present value of annual expenditure in the future is the government or debt, which may

bring financial risks. Therefore, the financial department should strengthen the constraints on PPP projects. On the one hand, the financial department will carry out value evaluation for the PPP project to adopt PPP model. On the other hand, according to the financial expenditure, government debt and other factors in the whole life cycle of the project, the financial department shall carry out financial affordability demonstration for some government payment or government subsidy projects, and the annual government payment or government subsidy shall not exceed a certain proportion of the fiscal revenue of the current year.

(5) Dynamic profit adjustment

PPP projects generally have a high public welfare, but also have a high monopoly (franchise characteristics), at the same time, a long time span, the profit should be adjusted dynamically according to the situation. On the one hand, operators should not be allowed to operate for market reasons; on the other hand, operators cannot be allowed to make excessive profits. If the project operation cannot continue due to market reasons or some unpredictable objective factors, it will cause various losses to the government, enterprises and the society. Therefore, the government should give some support in the adjustment plan. However, if the project produces more obvious excessive profits, it is bound to lead to the unreasonable state of interest distribution, and the excess profits should be redistributed.

(6) Scientific allocation of risks

The principle of PPP project risk distribution is to allow the most capable party to bear a specific type of risk. That is to say, a PPP project has several kinds of risks, who bears each risk, should not deviate from the principle of ability, that is, the characteristics of the risk should determine the bearer of the risk, and reflected in the standard contract. For example, policy risks should be handled by the public sector to minimise them, while management risks should be minimized mainly by the private sector.

(7) Implementing comprehensive oversight

PPP project has a complex process and a long time span, so different regulatory measures should be implemented in different stages, that is, the corresponding supervision and management basis should be implemented in the bidding stage, operation stage and asset transfer stage and measures. Take the UK, where the PPP model is more developed, In the supervision of the bidding stage, In its 2001 Corporate Cooperation Guide and How to Cooperate with selected Bidders, China proposed the regulation in the primary bidder stage, selected bidder stage and bidding stage, respectively, Put forward to the bidder's financial ability, professional knowledge, organizational ability and relationship management strict screening criteria; In the operational phase, Chapter 3 of the Project Handover Guide of the Operation Task Guide 2 proposes the supervision requirements for price, service level, customer service help platform and important events; In Chapter 10 of PFI Contract

Standardization 4, how to clarify the responsibility of supervision, who supervises, when supervises, who pays for supervision and regulatory matters are made detailed specifications.

(8) Strengthen personnel training

PPP project is a technically complex and professional management mode, covering government management, project management, investment and financing management, engineering technology and public services, involving finance, law, accounting and other professional technologies, and requires a large number of compound talents with both theoretical and practical experience. In order to improve the management ability of PPP, it is suggested to learn from the experience of Japan, set up a special PPP talent training institution and talent qualification certification system, cultivate professional talents committed to PPP cause through professional learning and qualification certification system, and promote the healthy development of PPP cause.

(9) The demand of social capital to pursue high return should be treated correctly, and the attractiveness of PPP return projects should be improved through effective mechanism design. It is generally believed that the public infrastructure is designed to serve the public needs of the society, and a low rate of return is normal. However, one of the advantages of PPP model is that social capital can obtain a high and reasonable return rate with government funds while transferring the pricing power. Document №50 pointed out that PPP development should "guide social capital to invest in key areas and weak links of economic and social development, and the government can appropriately yield profits". Local governments should pay attention to reasonably increase the return rate of social capital investment and maintain the enthusiasm of social capital investment.

(10) Relevant departments will issue policy guidelines to improve the return rate pricing mechanism of PPP projects, and add some pricing on the basis of LPR. With the promotion of China's interest rate liberalization reform, LPR has become the market-oriented benchmark interest rate of medium-and long-term loans of commercial banks, and can become the PPP return pricing benchmark in the future. In addition, the relevant departments should also issue guidelines to stipulate the maximum increase of LPR interest rates in different regions and different industries, and constantly adjust according to the development of the economic situation.

(11) Increase local government spending on PPP projects. We can increase PPP spending by local governments by increasing the amount of general local government bond issuance, increasing transfer payments from the central government, and appropriately easing policy constraints. The PPP model enables local governments to achieve relatively sufficient public infrastructure supply with low capital investment. Especially in the stage of economic downturn, for the areas with relatively backward economic development, we should increase investment to steadily promote the

development of PPP projects.

(12) Improve policy and planning, and introduce more long-term social funds for PPP projects. With the emergence of the aging trend of China's population, the demand for related infrastructure construction and the pension scale in China will continue to rise in the future. On the premise of controlling risks, pension investment in related PPP projects can not only bring considerable benefits for pension, but also provide a stable and sufficient source of funds for infrastructure construction. According to Article 37 of the Measures for the Investment Management of Basic Pension Insurance Funds, 20% of the net asset value of the pension fund can be invested in major national projects and the equity of key enterprises, which provides a policy basis for pension investment in PPP projects.

(13) Prudently promote the development of the capital market and provide more effective exit mechanisms for PPP project investors. In the future, PPP project companies can be considered to promote the listing of PPP projects, second, they can vigorously promote PPP project asset securitization business; third, relevant policies and regulations can be issued to promote the development of restructuring and acquisition business for PPP project companies.

In the long run, promoting the listing of PPP project companies is the key move. Opening up this channel is conducive to the promotion of measures to attract long-term investment for PPP companies and promote related restructuring and merger business. However, it should also be pointed out that PPP projects need long-term and stable investment, and should not become speculative tools. Listing of PPP project companies can introduce restrictive mechanisms such as lock-up period and lock-up ratio.

It is suggested that the "exit mechanism" should be standardized as an important link. The government should learn from foreign PPP exchanges and rely on various property rights and equity trading markets to provide diversified, standardized and market-oriented exit channels for social capital.

(14) The PPP model can be considered in the infrastructure investment of countries along the "Belt and Road" route.

First, good progress should be made in the rectification of the domestic PPP model, on the basis of achieving healthy and orderly development, promote the beneficial experience of PPP model to countries along the Belt and Road, attracting extensive national capital participation, in particular, for investments in some transnational infrastructure, the PPP model can play a positive role.

Second, it can be considered to provide policy support for PPP companies in countries along the "Belt and Road" route to list or issue asset-backed bonds in China, under the premise of controllable risks, appropriate implementation of policy deregulation, while providing an exit mechanism for PPP investors. It also helps China's capital market to open up to the outside world, to help promote the internationalization of the RMB.

(15) It is suggested to improve the PPP financing market, actively attract and integrate financial resources including banks, securities, insurance, trust and social security funds, and build a multi-level PPP financing market covering equity investment, credit, guarantee and insurance.

The introduction of the proposed directions will contribute to the formation of a system of public administration and municipal management of PPP. The results completely depend on the competence of state and municipal employees, their ability to properly apply legislative measures that provide for interaction with large investors, the use of organizational and resource opportunities for the development of international and financial organizations, and support for local society.

CONCLUSION

The relevance of the chosen research topic is explained by the fact that the public-private partnership regime plays an important role in the economic development and infrastructure of China. PPP has become an important tool for implementing national strategies, and its development in China has entered a new stage.

Positive incentives create favorable conditions for the development of PPP, but if problems arise in the progress of reforms, it may have a negative impact on the development of PPP.

In the popularization stage, PPP will have new features.

First, more opportunities for mergers and acquisitions. If the country wants to promote a mixed-ownership economy, mergers and acquisitions will be an important means to achieve this goal.

Second, the simultaneous advancement of multiple PPP projects will increase. Comprehensive consideration of multiple related projects can reduce waste and improve efficiency.

Third, the number of Chinese companies going abroad to do PPP will increase. It is inevitable for Chinese companies to go out. Going out to do what they are familiar with and spreading Chinese experience is good for themselves and others.

Fourth, summing up experiences and lessons and promoting them will be valued by the new leadership, and only fools will allow the same kind of mistake to happen repeatedly.

On November 24, 2017, the PPP Working Group of the United Nations Economic Commission for Europe held a special meeting on "Using the PPP Model to Promote the 'One Belt And One Road' Initiative for Win-Win" at the United Nations Headquarters in Geneva. More than 200 representatives from more than 60 countries, international organizations and international financial institutions attended the meeting. The Chinese delegation to Geneva introduced a series of important achievements made in the "One Belt And One Road" construction to the delegates. National Development and Reform Commission, deputy director of the department of investment Han Zhifeng invited in Beijing through video meeting, summarize and review the national development and reform commission and the UN Economic Commission for Europe signed the first memorandum of understanding since the positive results, and introduced the next step to promote the "area" PPP cooperation work vision. Li Kaimeng, director of the Research Center of China International Engineering Consulting Company, made a key speech on the "One Belt And One Road" PPP cooperation at the meeting site.

Standing at the starting point of the popularization stage, we have some expectations for the great development of PPP. For example, there will be a number of

world-class public utility companies in China, and PPP will play a key role in transforming the development mode, so that China has not fallen into a moderately developed country.

The dissertation identified the main problems in the development of the PPP model, which include:

- 1) Social capital is in reality a debt investment.
- 2) Insufficient participation of private capital.
- 3) Temporarily curbing the trend towards rapid development of PPPs after increased supervision.
- 4) Intersection of different competent authorities and difficulties in delineating their powers, responsibilities and interests.
- 5) Policy instability regarding the PPP model by local authorities. Formation of a policy divorced from reality.
- 6) There is a lack of coordination and support for reforms. The financial mechanism of subsidizing and the municipal state pricing system are imperfect.
- 7) The land use policy of the PPP project is not defined. The PPP project in different regions and sectoral land policy differ.
- 8) Low profitability of PPP projects.
- 9) Regulatory awareness regarding PPP projects is relatively weak.
- 10) There are differences between government and social capital in the distribution of future income.
- 11) After the participation of social capital in PPP projects, investments do not have effective exit channels.

Based on the identified problems, directions for the development of the PPP model in China were developed:

- 1) Improve the legislative level, unify the legislation and standardize the PPP model.
- 2) Formulate a standard PPP contract and improve the contract management system.
- 3) Strengthen the institutional building of the PPP management center, establish a manual for PPP project procurement and contract management within the PPP management center.
- 4) Clarify financial constraints.
- 5) Dynamic profit adjustment.
- 6) Scientific allocation of risks.
- 7) Implementing comprehensive oversight.
- 8) Strengthen personnel training.
- 9) To reasonably increase the return rate investment and maintain the enthusiasm of social capital investment.
- 10) Improving pricing mechanism.

- 11) Increase local government spending on PPP projects.
- 12) Improve policy and planning, and introduce more long-term social funds for PPP projects.
- 13) Promote the development of the capital market and provide more effective exit mechanisms for PPP project investors.
- 14) Using the PPP model when investing in the infrastructure of countries along the "Belt and Road" route.
- 15) To improve the PPP financing market.

Solve the problem of municipal construction funds. The BOT model adopted in the past has proven this. Enterprises participating in municipal construction and operation can not only use their existing funds, but more importantly, they can use the financial market to securitize the assets of PPP projects and open up a green channel between municipal construction and operation and the capital market.

Solve municipal operational efficiency issues. Some projects led by local governments in my country are difficult to operate after completion, and the projects continue to lose money, becoming a burden on local governments and causing huge waste. This includes expressways, rail transit, garbage disposal, etc., which is rarely the case for projects constructed by BOT. The reason is that at the beginning of the construction of the BOT project, the company has already considered the future operating costs and benefits. Introducing the PPP model to public facilities can fully consider future operating costs and benefits at the beginning of project initiation and design to avoid waste. At the same time, the practical experience of many countries shows that the operation of public facilities by enterprises is more efficient than government operation in most cases. The EPA estimates that the private sector is 10% to 20% less expensive than the public sector in terms of both investment and operating costs for environmental infrastructure.

Solve the problem of insufficient administrative accountability. In the past, when some municipal construction projects failed, such as water conservancy projects failing to deliver water, administrative accountability procedures were generally initiated. Administrative accountability is necessary, but it cannot recover all losses, and it is difficult to effectively compensate for the loss of public finances. With the PPP model, if there is a problem with the project, the loss can be borne by the enterprise. Just because they have to bear potential losses, enterprises will work harder and more seriously to carry out project demonstration, construction and operation management to ensure that municipal projects play a better role.

Professionals can be trained. The Chinese government is a place where talent gathers, but it is also a place where talent is wasted. Because once an official has expertise and achievements, he is often promoted to other places or transferred to other professional fields, which is a characteristic of the administrative system. As a business system, enterprises can often better retain talent. As urban management becomes more

modern, professional and complex, talents in this area are particularly valuable. The PPP model can better cultivate and retain professionals in various fields.

The above advantages of the PPP model only compensate for the shortcomings of China's urban management system and should be actively promoted.

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