

Research on the Status Quo, Problems and Measures of the Development of China's PPP Model

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Abstract

China is in the process of rapid urbanization and rapid economic development. The demand for infrastructure construction is getting higher and higher, but government funds are limited and cannot meet its needs. With the decline of government investment in the construction of public infrastructure, and the role of private capital enterprises in the construction of public infrastructure has begun to play an increasingly important role, and the continuous development of marketization of investment and financing models, a new financing model has been introduced—Public-Private-Partnership (PPP) model, that is, the cooperation model between public government departments and private enterprises. At the present stage of the development of China's PPP model, there are many problems: inadequate legal systems, inadequate supervision and management, insufficient understanding of the PPP model in various regions, inadequate risk taking and benefit distribution, and large government credit risks. In view of this, we should start to improve the legal and regulatory system related to the PPP model, establish a sound supervision and management mechanism, establish a specialized PPP management agency, establish a reasonable risk sharing and benefit sharing mechanism, and establish an information sharing platform. Therefore, this article starts from the deep meaning of the PPP model, the current status of development in China, the problems that arise, and better solutions to study it in depth.

Keywords

PPP Model, Status Quo, Problem, Measures

1. Definition and Characteristics of PPP Model

1.1. Definition of PPP Model

The announcement of the United Nations Development Program in 2008 showed that PPP refers to a model that links the public and private sectors to specific

projects (Lifeng Liu, 2015; Yuhong An, 2014). The connotation of the PPP of the Asian Development Bank in 2011 refers to the way to link the alliance between the public sector and the private sector for the purpose of carrying out infrastructure construction to provide public goods and services (Jianqiang Sun & Hao Shen, 2013; Shasha Shi & Zhibing Chang, 2013). According to the latest official website of the World Bank, PPP is a long-term contract between a government agency and the private sector to provide a public product or service, and the private sector has to bear management responsibilities and significant risks (Yanli Sun, Wanbo Liu, & Xinrong Liu, 2012; Yuhong An, 2014).

Although various institutions and organizations have elaborated on the PPP model from different perspectives, they have different opinions. However, these statements have some similarities: first, the cooperation between the public and private sectors is a prerequisite for the project to proceed; the second is to provide high-quality products and services by developing and designing public works for specific infrastructure construction (Jianqiang Sun & Hao Shen, 2013; Shasha Shi & Zhibing Chang, 2013). Third, risk sharing, based on the principle of the party most able to bear the risk. The fourth is to focus on benefit sharing during multi-party cooperation and participation in the project, and to formulate a reasonable benefit adjustment mechanism to achieve a win-win situation between the public and private sectors. Based on these common characteristics, the PPP model can be defined as the premise of cooperation between the public sector and the private sector, with the purpose of developing and designing public projects for specific infrastructure construction to provide first-class, high-quality products and services. The principle of sharing and benefit sharing enables all parties to form a strong and mutually beneficial cooperative relationship.

In addition to being a new financing model (Yanli Sun, Wanbo Liu, & Xinrong Liu, 2012), the PPP model is also an effective management model and a national fiscal and administrative innovation system available to all parties (Wanling Chen, 2014; H. Abe, M. Mitsuoka, M. Nakamura, & K. Kojima, 2013). The PPP model has some innovative and comprehensive definitions. First, the government and enterprises are strictly separated and relatively independent. The private sector has sufficient financial resources, high-tech and effective management means, and other production materials. It manages the entire process of the project and is an efficient supply; the government will effectively and fairly handle the complex relationship between the public and private parties on the basis of the economic situation and the requirements of the products and services that the public wants. The dual identities of formulators and managers; the second is dual-agent supply. From a formal point of view, the PPP model is that the private sector produces and provides public goods and services in accordance with the standards set by the government, and the government pays for the public goods and services produced as a single main supplier. However, PPP is a long-term contract between the private sector and the public sector, that is, the public sector pays for the quality and quantity of products and services provided by the private sector

during contract. From a practical point of view, the long-term and effective cooperation between the public and private sectors is a necessary condition to achieve the purpose of providing public goods and services; the third is to balance fairness and efficiency. The profit-seeking nature of the private sector makes it possible to reduce production costs by all means and make the best use of limited resources to maximize profits. The government only fulfills relevant commitments after consuming and obtaining high-quality products and services, which ensures that the government takes a leading role in the project process, which encourages companies to strictly control products and services in the production process, so that the public's interests are not harmed; the fourth is the operation mechanism of various agency relationships. At present, the PPP model adopts a comprehensive agency mechanism. Because PPP companies lack the ability to develop projects, in the initial expansion process of the project, in order to enable the project to continue, PPP companies will widely use various agency relationships, and this agency relationship will be specified in the contract.

1.2. Characteristics of PPP Model

1.2.1. Diversities of PPP Model

The classification of PPP differs between international and domestic institutions and organizations. At present, the World Bank divides PPP into four categories (LifengLiu, 2015; Zhihong Wu, 2005). The first category is management and lease contracts. It refers to the management right of a state-owned enterprise can be transferred to private organizations within a certain period, but the state still retains the investment decision-making power of state-owned enterprises. The second is that state-owned enterprises hand over existing or partially existing facilities operation and management rights to the private sector within a certain period of time. Franchise contracts are mainly based on the combination of management and operations that are mostly private capital expenditures, such as BROT, RLT and ROT, etc.; the third category is an undeveloped project contract, which refers to the construction and operation of a new project by a private institution or public-private partnership during a specific contract period, which will be replaced by the original private or public-private partnership after the contract period Transfer of ownership to the public sector. At present, such models include BOO, BLT and BOT; the fourth type is the contract formed by the private sector in the form of divestiture of all or part of assets in the process of publicly promulgating or stipulating privatization projects and auctions of state-owned assets. In the early days, BOT, PFI, BOOT, TOT, etc. were used as PPP forms, and PPP was the collective name for their many forms. In fact, different policy needs determine different forms of PPP.

1.2.2. Difficulty of PPP Model

Twenty or thirty years of operation time is inevitable for a PPP project. In this long-term operation process, any kind of situation may occur, such as exchange rates, economic cycles, political turbulence in some countries, prices and various

macro-controls will have an indirect or direct impact on the project (LifengLiu, 2015; Zhihong Wu, 2005; Lulu Sun, Renjie Wang, & Yanqiu Guo, 2019). In addition, PPP projects involving multiple interests should be considered from multiple angles. They are the public's desire for first-class public products and services, the high-yield and high-efficiency goals pursued by the private sector from beginning to end, and the social benefits and relative fairness that the government department is committed to. How to coordinate the relationship between the three is a very tricky thing. According to the data collection, collation and analysis of the PPP project contract, a good PPP project involves many issues. Full investigation and detailed data analysis should be done first. You can't just see the profits and swarm up without considering other Factors, only by doing everything to avoid or reduce a series of contradictions and conflicts in the later stage.

1.2.3. Long Period of PPP Model

A PPP project generally takes thirty or more years, and five or six years may not achieve the goal that the PPP model originally adopted. For a large-scale project, it takes only five or six years for the government to repurchase. For the government, the time is so short that it cannot fully recover the initial cost of the government investment, and the private sector cannot guarantee the quality of the project. Therefore, the government's subsequent maintenance costs are high, but the pressure to increase fiscal expenditure runs counter to the original goal. If the project is extended to twenty or thirty years, and the management rights such as project management, operation and maintenance are given to the private sector, the private sector will strictly control the quality of the project in order to reduce costs and obtain more profits, and wait until the deadline. Therefore, when the government recovers the operating right from the private sector, the annual maintenance cost of facilities will be greatly reduced, thereby reducing the government's financial expenditure burden (Shasha Shi & Zhibing Chang, 2013; Li Hu, Weiguo Zhang, & Xiaosu Ye, 2011; Feifei Guo & Chengfeng Huang, 2019).

1.2.4. The PPP Model Is Not Only a Financing Model, But Also a Management Model

An SPV (Special Purpose Vehicle) implementing agency is indispensable in the implementation of any project. Generally speaking, the public sector and several private sectors together constitute the SPV (Special Purpose Vehicle) enforcement agency (Yanli Sun, Wanbo Liu, & Xinrong Liu, 2012; Xiaoguang Qiu, 2019). SPV is the source of funding for PPP projects, mainly including its own funds and funds from financing. Therefore, in the progress of the project, financing is mainly the responsibility of the private sector rather than the government. PPP is a new type of management model. During the long-term cooperation between the public and private parties, the resources held by the non-public sector can provide public products and services, so that the entire society's resources can be fully utilized. At the same time, the macroeconomic effect of the government sector and the economic effect of the private sector are achieved.

2. Typical Status of China's PPP Model Development

2.1. Development of China's PPP Model

As can be seen from **Figure 1**, China's first successful PPP project was in 1985, and most of the PPP projects were distributed in the field of infrastructure. Later, during the operation of the PPP project, there were reasons such as imperfect laws, insufficient local government awareness, and unreasonable risk-benefit sharing. The government issued a series of laws and regulations to make the PPP project operate better.

2.2. Number, Value and Distribution Areas of Projects in China's PPP Model

Since its adoption in China, the number of PPP models has been increasing. From **Figure 2**, it can be seen from 2010 that it is more obvious that nearly 1,000 projects adopt the PPP model. From 2014 to 2016, the number and value of PPPs increased rapidly, because in the second half of 2014, government departments formulated a series of related policies in order to accelerate the implementation of PPP projects.

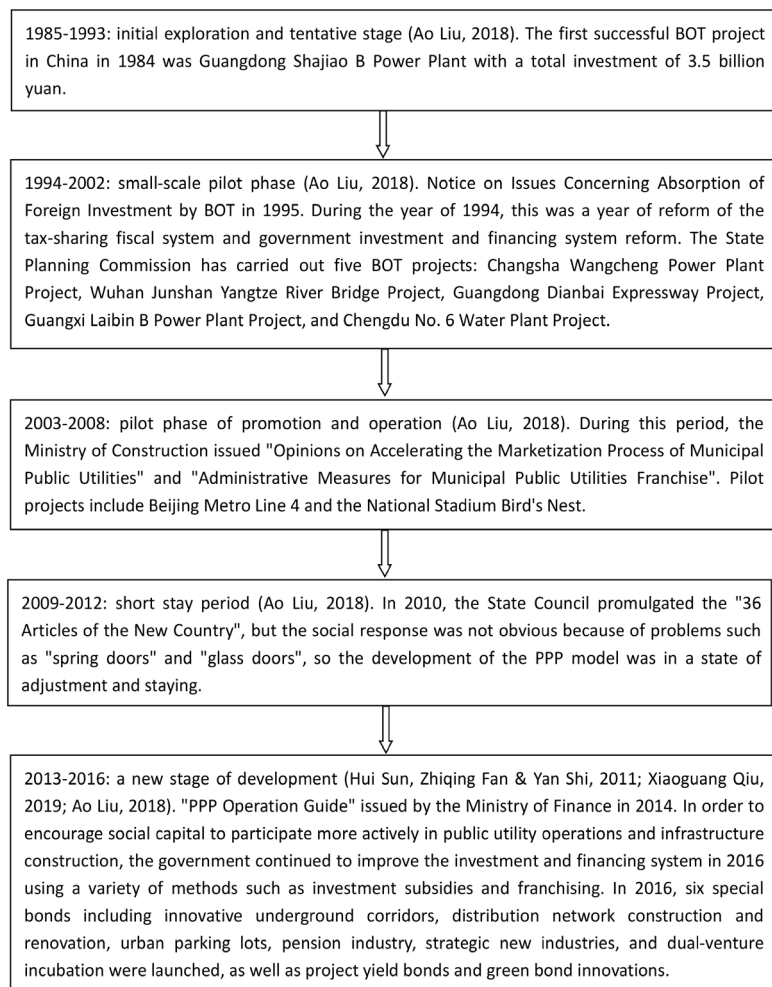


Figure 1. The development process of the PPP model.

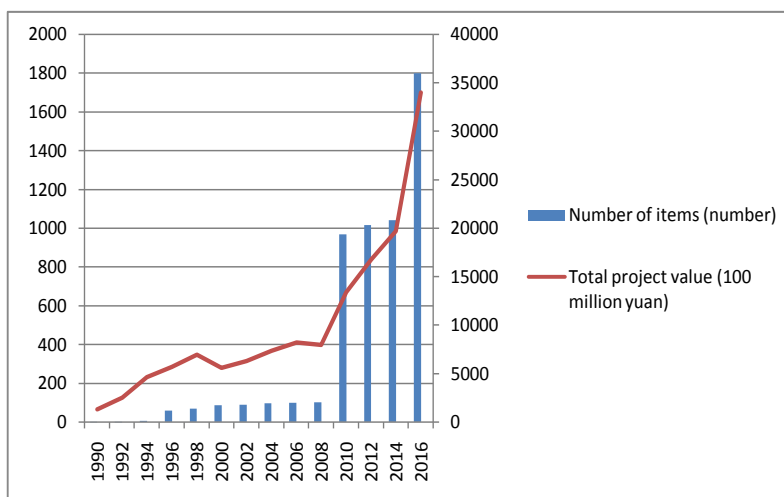


Figure 2. Statistics on the number and value of PPP projects. Source: <http://www.nfnet.com.cn/>.

With the accelerated implementation of relevant policies, the promotion of the PPP model in the country has a preliminary legal environment. As PPP projects play an increasingly important role in China's economic development, in the 13th Five-Year Plan, the government is optimistic about the future development prospects of PPP projects. At the same time, the government's annual investment proportion in PPP projects has increased year by year, and the total investment has increased year by year.

2.3. Distribution Areas of PPP Projects in China

As can be seen from **Figure 3**, PPP projects are mainly concentrated in three major areas: energy, water and wastewater treatment, and transportation. In China, there are many projects in energy, water and sewage treatment, transportation, advanced technology and effective management methods, so it is the first to adopt the PPP model in these three areas. At present, China has also begun to adopt the PPP model in financial, pension, medical, and urban planning (Dianjiang Yu, Xin Chen, & Mengqi Cai, 2013; Guofeng Gai & Li Ding, 2013; Kang Jia & Xingbing Wu, 2019).

3. Problems Facing the PPP Model in China's Development

3.1. Problems in the Macro Legal System

At present, most of the laws and regulations related to PPP in China come from various government ministries and commissions and some local regulation. These opinions, notices, and regulatory documents have low legal effects, and documents issued by localities and even lower levels conflict with each other. Most of these documents lack integrity and normative, it cannot provide strong protection for social capital investors. The legislation of relevant PPP projects is inconsistent with current laws due to its particularity. For example, in China, the land system

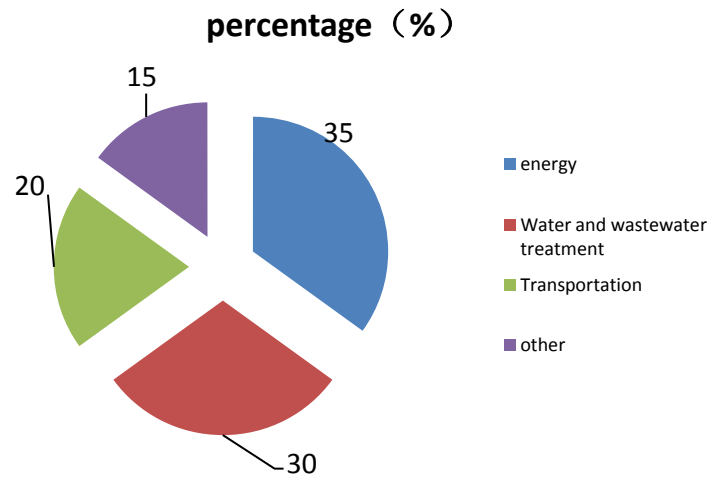


Figure 3. Statistics on the distribution areas of PPP projects in 2016.
Source: <http://www.ce.cn/>.

transferred in the form of bidding and auction is in conflict with the government's regulation that when transferring franchise rights to the private sector, in order to ensure that social capital investors can obtain the land use rights required for the project, the terms of the transfer agreement should be negotiated (Zhihong Wu, 2005; Lulu Sun, Renjie Wang, & Yanqiu Guo, 2019). In addition, in China's current administrative system, the National Development and Reform Commission and the Ministry of Finance argue with each other to allow social capital to invest and operate urban infrastructure concessions. Most of these regulatory documents issued by various government departments and localities are aimed at the arrangement and guidance of the PPP model. The rights and obligations of the government and private sectors are not clearly divided, and they cannot mobilize the enthusiasm and creativity of the participants in the PPP project. Due to the low legal validity of opinions, notices and regulatory documents issued by these government departments and local governments, the obligations and powers of the parties to the project cooperation are not clear, so it is difficult to restrict the actions of all parties and support the sustainability of PPP projects.

Due to incomplete laws and regulations of the PPP project, weak binding force, or changes in previous policies and regulations in the project operation process, etc., all participants will suffer the risk of loss. For example, the National Stadium Bird's Nest and Beijing Metro Line 4 do not have clear regulations on project bidding procedures and return on revenue, so that during the public bidding process, there are often internal or vicious competition and other phenomena, which are likely to bring great investment risk to social capital parties. Problems such as unclear responsibilities, susceptible to changes in rules, and confusing rights in the operation of PPP projects are not conducive to the construction and subsequent operation of PPP projects. At the same time, due to the lack of relevant systems, issues have been discussed one by one in the application of the PPP model, with long negotiation periods and high costs (LifengLiu, 2015; Yan Li, 2018).

3.2. Inadequate Supervision and Management System in PPP Projects

PPP projects involve the interests of government departments, the private sector, and the public, especially the public's related interests. Without a reasonable and effective regulatory system, it is easy to happen to damage public interests. At present, China does not have an independent PPP model supervisory body to implement unified management of it, nor does it have intermediary organizations and relevant industry associations to provide powerful auxiliary support for PPP project control (Yan Li, 2018; Ao Liu, 2018). The lack of effective supervision at the social level has led to the lack of separation between government and enterprises and supervision unclear responsibilities, etc. Regarding a local PPP project supervision system, such management methods and guidelines are only used for a specific project, so the scope of this regulatory binding force is very narrow, and when there are problems with multiple projects, it is difficult to prescribe the right solution to the corresponding problem, which will cause public dissatisfaction and private sector concerns. The current PPP operation lacks a unified supervisory authority and still adopts a multi-layered management model, which will cause problems such as poor coordination, low regulatory efficiency, and large regulatory costs. In the process of implementing a PPP project, the Ministry of Finance and the Development and Reform Commission are the supervisory bodies of the PPP project. Due to their deviations in control over specific operating procedures, methods, and purposes, there may be conflicts and contradictions in policies (Xiaoguang Qiu, 2019).

3.3. Lack of Understanding of PPP Model by Governments at All Levels and in Less Developed Regions

Because some local governments do not have sufficient understanding of the PPP model, they have blindly adopted the PPP model to invest to reduce the pressure on local government debt. For example, the Hangzhou Bay Bridge, because the government is difficult to make effective adjustments to market changes quickly, at the same time the government will build many similar projects, and the construction of the project will cause commercial competition between the corresponding projects, so the Hangzhou Bridge When the construction started less than two years ago, the Shaoxing Hangzhou Sea-crossing Bridge, which was only 50 kilometers apart, had already begun. The Jiashao Bridge constructed in 2013 only made the Hangzhou Sea-crossing Bridge even worse. However, this investment through the PPP model will only hide the actual cost, and has not changed the current situation of excessive local debt. It just uses this model to repackage the projects that have been denied, thereby turning the PPP model into a blind investment channel again (LifengLiu, 2015; Zhihong Wu, 2005; Lulu Sun, Renjie Wang & Yanqiu Guo, 2019). Relevant PPP project rules and regulations should be formulated based on local conditions, preferential policies and restrictions of the policy, etc. It is not allowed to directly transfer a well-developed PPP project

template to a country or region for use. It would be counterproductive, resulting in disputes among participating agencies and the stagnation of local projects. For economically underdeveloped areas, many development projects are pre-existing. Due to the small scale, low efficiency, and great damage to the ecological environment of these projects, the benefits of fee-based projects are generally poor, which is not conducive to attracting social capital injection and there is a “effect decay” in fee policies, but some PPP projects in these areas strong social welfare and high indirect economic benefits, it is even more necessary to introduce a PPP model to promote local backward infrastructure construction and economic development. At the same time, because of the limited access to information in these areas, the application of the PPP model is rare. The current lack of momentum of the current PPP model is related to the inconsistent understanding of the PPP model among local governments. Due to economic development, limited funds, and insufficient managerial awareness, these underdeveloped regions continue to raise debts even when debts are high, and are unwilling to reach out to the private sector for cooperation. Most local administrations believe that PPP is only a financing model, and they fail to understand more deeply that PPP is also a financial innovation system.

3.4. Government Credit Risk in PPP Projects Is Relatively Large

Government credit risk refers to the direct or indirect losses caused to the cooperative project by the government’s refusal or failure to perform contractual obligations. Driven by short-term interests, local governments may speed up the construction of local infrastructure by launching a series of projects and high fixed investment returns to attract social capital to enter and sign project investment contracts with them. During the contract period of a PPP project, there may be problems such as changes in the rate of return on investment, the uniqueness of the project, and the change of leaders. As a result, the government cannot fulfill its contractual obligations and will directly or indirectly cause the risk of losses to the parties involved in the project cooperation (Shasha Shi & Zhibing Chang, 2013; Zhihong Wu, 2005; Feifei Guo & Chengfeng Huang, 2019). Fiscal deficits, economic crises and other reasons will also unable to meet the government’s commitments to investors at the beginning of the project, which will also generate credit risk. In addition, conflicts or incompleteness of relevant regulations in contract documents are prone to risks, causing losses to the private sector. For example, Failure to fulfill the uniqueness clause of the project will result in insufficient income and changes in market demand will also generate government credit risk. In summary, government credit risk can be caused by a variety of factors, such as economic crisis and changes in regulations and policies will lead to government credit risk.

From the perspective of the market, local governments’ attitudes towards the PPP model are ambiguous, and social capital investors are worried about participating in PPP projects because of government defaults. Through the analysis of

PPP project data over the years, it is roughly known that the actual transaction rate of PPP projects is less than 25%¹. For example, Shiyuan Public Transportation Group Co., Ltd. is taken as an example of the “privatization of public transportation”. After five years of operation, this case of market-oriented public services ended with the government taking over the bus companies. The main reason for the failure of the project is that the government is in a leading position during the later stage of the project. The local government has stipulated that bus fares cannot be increased, and the company was also required to submit a profit of 8 million yuan on time, which caused the social capital side to make ends meet, and finally the social capital side gave up the franchise right and became a permanent shareholder. The previous commitments on subsidies were also difficult to fulfill.

3.5. PPP Model Lacks Reasonable Risk Sharing and Benefit Sharing Mechanism

3.5.1. Risk Sharing Mechanism Is Not Mature Enough

PPP projects have the characteristics of long operating cycles, complicated risks, benefits, and responsibilities of the participants. Therefore, there are always risks in the implementation of the project, and investors must bear unforeseen risks. Because infrastructure construction has long cycles and force majeure factors, it determines its risks in terms of competition, operations, supply, and capital markets (Jianqiang Sun & Hao Shen, 2013). In addition, for the purpose of improving performance and introducing social capital, some local governments have given too much commitment to the private sector in the early stages of project operations, such as excessively high returns, loose charging principles, long franchise periods, and even outrageous project preferential policies. Because the government is in a favorable position in PPP projects, it often transfers risks to market-oriented subjects in subtle and imperceptible ways, so the private sector is not always able to handle these risks well, such as the risk of policy changes and the uniqueness of project terms Changes and other risks. For example, in the Lianjiang Sino-French Water Supply Plant project, the signing of the contract caused these problems to be divorced from the actual amount of water and water prices, which led to the Lianjiang Municipal Government and the water company not fulfilling their obligations under the contract. The results of the negotiations so far are distant and uncertain. Difficulties in risk management and imperfect risk allocation mechanisms are among the problems that cause bottlenecks in the application of PPP projects (Feifei Guo & Chengfeng Huang, 2019).

3.5.2. Unreasonable Income Distribution Mechanism

There are too many reasonable pricing mechanisms for private sector operations that are not specified in the relevant agreements, as well as adjustable general terms, which often lead to the phenomenon of excessive profits or losses in the private sector during project operations (Kang Jia & Xingbing Wu, 2019; Feifei Guo & Chengfeng Huang, 2019). In the early stage of the project, due to the gov-

¹DOI: <http://www.chyxx.com/>.

ernment's commitment to give a higher return on investment or policy support, the private capital gained more profits, the most typical of which are natural gas, tap water, oil and other projects. The private sector has the nature of chasing profits. Despite the huge development space of PPP projects, if a PPP project cannot guarantee that investors can obtain continuous returns during the operation period, it will definitely have an impact on the enthusiasm of investors for participating in the project. However, if the private sector gains more benefits, it will inevitably make the cost of the public burden heavier, thereby questioning and opposing the project, leading to the end of the project and increasing the financial burden. In addition, some local governments will only engage in high-yield projects rather than cooperate with the private sector. At the same time, if the PPP project is in the process, if social capital investors suffer losses due to excessive costs or policy changes, it will make it difficult for the private sector to maintain the PPP project. In the development of PPP projects in less-developed areas, the government invested less in the project investment because of its limited funds. Therefore, this part of the financial funds only pays attention to the public welfare and ignores the profitability. The government does not participate in the distribution of income. Most investors' wait-and-see attitude towards PPP projects is closely related to the lack of a reasonable income distribution system.

4. Relevant Measures and Suggestions for the Development of PPP Model

4.1. Improve Laws, Regulations and Policies Related to the PPP Model

Due to the lack of development experience of the PPP model in China, the relevant laws and regulations are very imperfect, and many unexpected conditions have emerged in the course of practice. The better development of the PPP model depends on complete and systematic laws and regulations. Only a sound legal system can effectively avoid various risks and promote the smooth progress of the project. However, the existing domestic legal documents have not issued laws and regulations covering many specific issues of the PPP model. From the standpoint of promoting social benefits and protecting the public interest, the government, as the project formulator and regulator, should accelerate the formulation of a relatively complete set of laws and operable laws on the PPP model in accordance with the actual situation of PPP projects. Only in this way can the rights and obligations of the project participants be clarified and limited, and the public sector should be urged to use the PPP model to select reliable cooperation partners, so that the project participants can follow the rules in the project process and the project operation process is more efficient and fair. The PPP model is a long-term cooperative relationship between the government and social capital. A scientific and reasonable system design is the basis and prerequisite for the orderly and efficient promotion and sustainable development of PPP projects. Only with predictable institutional arrangements and the establishment of open and

transparent rules can the PPP model comply with the rules and fulfill the contract regulations. Otherwise, the disorderly progress of the work, the “change of rules” and the lack of contractual spirit will lead to social capital’s ambitions for PPP projects. The wait-and-see attitude and doubts affect the enthusiasm of social capital participation. Only under the framework of complete and systematic laws and regulations can the PPP model be effectively implemented.

In order to ensure that government departments and the private sector clarify their respective rights and obligations and the effective performance of contracts, the government should issue corresponding laws and regulations as support. For areas with low infrastructure or relative service fees, private investors often have lower returns, and government agencies need to introduce policies to increase or guarantee the return on investment of private investors participating in infrastructure PPP projects, or a combination of the actual situation of each country and region, formulate some policies to support infrastructure PPP projects, such as tax incentives, government subsidies, and so on (Narasimhan, Ramesh, Aundhe, & Madhuchhanda Das, 2014; Antonio Estache, Jose-Luis Guasch, Atsushi Iimi, & Lourdes Trujillo, 2009). In the process of systematic and perfect protection of the rule of law, it should be based on the clarification of the responsibilities of the parties involved in the PPP project, as well as the obligations and rights enjoyed by the parties in the PPP project. The government must do a good job in the early stage of the project and the supervision of the whole cycle of the project; the private sector must do a good job in the development of the project and the later operation and maintenance; the public participation in supervision and timely feedback. Then, after clarifying the responsibilities of each participant, the government should follow the principles of specific issues and specific treatments and market rules to formulate corresponding laws and regulations. Due to the different participants and market environments faced by PPP projects, the content undertaken by each PPP project will be different. Therefore, the laws and regulations must be designed with predictability and continuity, so that their content will not be affected by Changes in the environment and changes in time conflict and contradict each other. Only under the conditions of perfect laws and regulations can we better enable all participants to achieve the goals of risk sharing, benefit sharing, and strict restraint on themselves.

4.2. Establish and Improve the Supervision and Management Mechanism Related to the PPP Model

Whether a PPP project can be successfully completed and whether future operations are smooth, the formation of a good supervision and management framework and the implementation of supervision capabilities are essential. As a formulator and supervisor in a PPP project, the government should pay attention to its role in the project, and establish a complete and systematic PPP model supervision and management institution to form a long-term and effective mechanism. The government’s monitoring framework should take full account of the

links between administrative, social and project management. The supervision and management of PPP projects are quite different from those of ordinary projects. PPP projects are basically public investment projects that involve the public interest (Shanjun Liu, 2019; Yan Li, 2018). The government has the function of maintaining social benefits and the legitimate interests of the public, and must assume the responsibility of supervision and management of the entire project. One of the key steps for the PPP model to achieve significant progress is to establish an unimpeded information exchange platform and a complete and systematic supervision and management system. Establish a comprehensive evaluation system to connect government departments, the private sector and the public. At the same time, a full-cycle management mechanism of pre-examination, follow-up, and post-evaluation should be established to effectively improve the efficiency of the regulatory agency. Independence harmonizes the relationship between the government, the private sector, and the public to ensure that the benefits of the three are maximized. In order to publicize the entire process of project operation to the society in a timely and effective manner, the government should also establish a unified and complete information release platform to ensure the orderly progress of the PPP project and that the public can obtain the required information and effective supervision at the first time.

4.3. Establish a Specialized and Targeted PPP Management Agency

Under the unified guidance of a specialized PPP project management agency, it can not only reduce the operational risk of PPP projects, but also improve the efficiency of project operations. It can greatly reduce the problems of inconsistent pace of PPP project construction and chaotic operation of the project caused by the large number of management agencies, and can effectively reduce mistakes to improve accuracy (Xiaoguang Qiu, 2019). Among the specialized PPP management agencies, set up a dedicated PPP management office area, equipped with comprehensive talents such as law, finance, construction engineering, etc. Each PPP project requires fixed personnel to follow up and do other accidental remedial measures.

4.4. Develop Effective Risk Sharing and Reasonable Benefit Sharing Mechanisms

4.4.1. Formulate Reasonable and Effective Income Distribution Rules to Balance the Interests of All Parties

The public welfare and profitability of infrastructure should be strictly separated and recorded by the government in order to formulate a reasonable and long-term project income distribution mechanism. The PPP model is mostly applicable to for-profit projects, but rarely used for pure public welfare projects. The PPP model is mainly used by the government to make up for the limited financial resources and improve the efficiency of resource use (Shasha Shi & Zhibing Chang, 2013). The government and the private sector cooperate to implement infrastructure

construction to achieve the goals of risk sharing and benefit sharing between the public and private parties. Since pure public welfare projects have no benefits at all and cannot share benefits, they cannot attract social capital investors to participate in PPP projects. Therefore, the project itself should have profitability, relying on the combination of different payment mechanisms such as government payments, user payments, and government subsidies. However, in order to attract the entry of private capital, the government cannot promise a higher level of benefits to the social capital side. In this way, the public will bear greater costs and it will easily cause public doubt and opposition. The PPP project's income distribution rules balance the social and economic benefits of PPP projects by integrating different goals. It is necessary to prevent social capital parties from raising prices arbitrarily and obtaining huge profits, which will cause conflicts between PPP projects and public interests; and reasonable profits Range to attract social capital investors. Therefore, a profit adjustment mechanism is designed in accordance with the PPP project. For purely public welfare projects, financial subsidies are directly provided; for projects that can bring profits, the government can transfer the management rights to investors within a certain period of time, and require investors to disclose operating costs, and then be recovered by the government (Feifei Guo & Chengfeng Huang, 2019).

4.4.2. Establish Scientific Risk Management and Share Risks Reasonably and Effectively

Governments are generally considered to be more capable of taking risks than the private sector, but this is not the case (Hui Sun, Zhiqing Fan, & Yan Shi, 2011). The private sector is profit-seeking. The private sector knows more about market changes than the government. Therefore, the private sector should be responsible for operating risks, market risks, and financing risks. The government has a strong ability to bear legal and regulatory risks, policy risks, political risks, etc.; for the force majeure factors, both the government and the private sector should jointly bear through equal negotiation (Jianqiang Sun & Hao Shen, 2013; Yanli Sun, Wanbo Liu, & Xinrong Liu, 2012). The public sector and the private sector are the risk sharing subjects of PPP projects. Due to their different perspectives, they have different sharing preferences and comparative advantages. In order to attract social capital investors and connect the relationship between the government and the private sector in the form of contracts, it is necessary to use contracts to clarify and divide the risks to be borne by each participant, so that the PPP model can be carried out smoothly. Therefore, in order to promote the successful operation of the PPP project, all parties should allocate risks according to the actual situation and form a joint and effective risk sharing mechanism.

4.5. Strengthening PPP Project Information Disclosure and Alleviating Information Asymmetry

The implementation of a PPP project usually requires a lot of data search and actual situation investigation. As a form of long-term cooperative relationship between the public and private sectors, the PPP model requires the cooperation of

various parties. Government departments should publish relevant documents related to PPP projects, while the private sector will announce the combination of construction, operation, maintenance, and market changes of PPP projects. In the process of PPP project cooperation, only when the parties understand each other's situation can they exert their biggest advantages. The government should establish an information sharing platform, including the collection, screening, analysis, and summary of project construction standards, legal systems, management systems, and project development information. Because PPP projects have the characteristics of long cycle, slow return of income, and most of the funds in the early stage of the project are funded by the social capital side, the social capital side bears more risks of uncertain returns than the government department. Various factors need to be considered comprehensively before participating in project investment. The government should provide more information about the project within a reasonable scope of authority, so that the social capital side can make faster decisions, reduce its wait-and-see attitude, and strengthen its determination to participate in the project. At the same time, the private sector must also provide relevant information about the project operation, so that government departments can timely understand the situation and make corresponding adjustment measures to achieve a win-win situation.

5. Conclusion

The PPP model has incomparable advantages in China's current economic form, but there are also many risks. There is still a long way for China to achieve the transformation from a large government, a small market to a small government, and a large market, while the PPP model fundamentally requires the government to change its position and change from the sole provider of public goods to the partner and supervisor of the project, and strictly observe the spirit of contract. Therefore, it is necessary to adopt scientific methods for reasonable management, maximize the advantages of the PPP model, and promote the development of China's infrastructure construction.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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