PPP project life cycle renegotiation trigger event identification

Zhaorong Mu*, Tian Gao

1School of Tianjin University of Technology, Tianjin, China

*Corresponding author e-mail: mzw18443913264@outlook.com

Abstract: This paper analyzes the obstacles of PPP project contract implementation and PPP related contract content, finds out the uncertain events in the whole life cycle of PPP project, and further summarizes and filters it to get the renegotiation trigger event. Through literature review and case analysis, the causes of renegotiation trigger events were confirmed and their impacts were analyzed. Finally, based on the compensation of the contract status and the supplement of the contract status, the renegotiation control mechanism and the post-event problem supervision are proposed.

1. The introduction

At present, the renegotiation is mainly focused on PPP projects in the engineering field. The PPP project has the characteristics of long project cycle, social capital and government joint venture. This lead to more uncertainties in the implementation of PPP projects, the main reason in the PPP project have the characteristics of project cycle long, leading to PPP project faces many uncertain factors such as politics, economy, the change of environmental factors, energy price fluctuations, government officials, the personnel changes of, the ability of the solution of the initial contract will appear and make the project, the best solution is to negotiate

PPP contract renegotiation plays a positive role in ensuring the continuous and effective progress of the project, ensuring the reasonable return of social capital and promoting the success of the project. However, in the implementation process of PPP projects, in the renegotiation projects permitted by the government, the existence of "return the favor", "breach of trust" and other behaviors makes the PPP contract again caught in a dilemma. Based on this, the paper believes that it is necessary to identify the trigger event of the whole life cycle of PPP project renegotiation and provide targeted control measures to ensure the orderly progress of the renegotiation.

This paper analyzes the obstacles of PPP project contract performance and related contract guidelines, preliminarily determines the uncertain events of the whole cycle of PPP project, and further deals with the uncertain events to obtain the trigger events of renegotiation. Finally, two kinds of renegotiation control methods are proposed, which are the monitoring of the established renegotiation trigger event by the beforehand mechanism and the supervision of the afterwards problem.
2. Analysis of uncertain events in the whole life cycle of PPP projects

2.1. The case analysis of the obstacle of contract performance

From domestic has been carried out in the PPP project to select the 7 cases by obstacles during project execution, the cases involved in water supply, sewage, power supply, municipal engineering and other fields.

| No. | Project name                      | Events                          | The main problem                                                                                                                                 |
|-----|-----------------------------------|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | Huijin China (Changchun) sewage treatment | 2003 Changchun government repurchased the franchise of Huijin sewage treatment company | The contract signed by Huijin company and municipal drainage company is not equal, and the approval process of project approval is not strict          |
| 2   | Lanzhou sewage treatment          | Factory water benzene content exceeds the limit | On the one hand, Lanzhou Veolia water co., ltd. has a low input budget; on the other hand, Lanzhou water price has not been maintained for a long time, resulting in the company has been in a state of loss |
| 3   | Shandong Zhonghu power generation | Shandong Provincial Development and Reform Commission lowered the minimum purchase of electricity | On the one hand, changes in government policies have caused the Operational Power Purchase Agreement to lose its operational base; on the other hand, policy makers have failed to fully anticipate risks, and changes in market demand have led to a sharp decline in project revenue. |
| 4   | Four Bridges of Minjiang river, Fuzhou | The competition project appeared, the income decreased sharply, the project operation difficulty | Due to the large traffic flow, traffic congestion was caused. The government established the second ring road project in Fuzhou in violation of the contract, which led to a sharp decrease in the profits of the social capital side and ultimately led to the government's buyback of the right to operate |
| 5   | Hangzhou bay bridge               | Capital is constantly added, and project principal recovery is difficult | In the early stage of the project, the project budget was relatively low, which led to the continuous capital addition in the project implementation project. In addition, the actual income of the project was 30% lower than the expected income, which led to the withdrawal of a large amount of social capital |
| 6   | A sewage treatment plant in Jiangsu | Forced to negotiate project ROI | Due to the implementation phase of the project, the change of government policy may lead to the project may not be able to recover the cost in the planned payback period |
| 7   | Tianjin Shuanggang waste incineration power plant | Project operation difficulty | Due to the fact that the gas generated by waste incineration has carcinogenic factors, it causes panic among the surrounding residents and arouses fierce opposition from the surrounding residents |
In these cases, the occurrence of emergencies, such as policy, legal changes, etc., are inconsistent with the policy at the time of signing the contract, and are classified as regulatory and policy adjustments. Noise pollution, water pollution, light pollution, etc. cause damage to the public interest. Can be classified as mass opposition, the government does not honor the promise, refused to perform the contract and so on classified as a government default, the government can’t be classified on time, according to the rules for subsidies are not timely.

The analysis shows that the obstacles to the execution of contracts encountered by social capital usually come from the difficulty in balancing the investment due to excessive investment, while the profit problems are usually due to the high expected use efficiency of projects, changes in laws and regulations, poor operation and other reasons.

2.2. PPP project related guidelines analysis

This paper compares the PPP project contract guide (trial), the Government and social capital cooperation project general contract guide, and the World bank PPP contract terms guide 2017 from 12 indicators, including the applicability, nature, application, system, participants, and contract subjects. Through comparison, it is found that the contract content of NDRC is relatively clear and its overall structure is consistent with the actual contract. The contract of the Ministry of Finance is relatively complete and rigorous, which explains the reasons for each part. The focus of the World Bank's version of the contract guidelines is the analysis of key issues beyond the regular terms.

The guidelines for PPP project contract (trial) issued by the Ministry of Finance focuses on reasonable risk allocation, project cooperation term, government involvement in supervision of project construction, equity change and diversification of government payment. The uncertain events in the PPP guide are shown in the table below.

**Table 2.** List of uncertain events in PPP project contract guide (Trial)

| No. | Uncertain event                                                                 | No. | Uncertain event                                                                 |
|-----|--------------------------------------------------------------------------------|-----|--------------------------------------------------------------------------------|
| 1   | Government project related personnel post change                              | 6   | The project income is too high or too low, the profit needs to be redistributed |
| 2   | Operating stage pricing does not meet the market demand                        | 7   | Operating stage pricing does not meet the market demand                        |
| 3   | The government promises more than it can deliver                               | 8   | The regulatory mechanism is not sound                                           |
| 4   | The loss of government design review                                           | 9   | The construction project has affected the normal life of the surrounding residents |
| 5   | Project operation services do not meet the actual needs                       | 10  | Decision-making error leads to insufficient funds and time limit               |

The Guide to general contracts for government and social capital cooperation projects focuses on the cooperation parties of the government and social capital, the support of the government for social capital financing, time limit management, construction conditions and special compensation during the operation period.

**Table 3.** List of uncertain events in the Guide to general contracts for government and social capital cooperation projects

| No. | Uncertain event                                                                 |
|-----|--------------------------------------------------------------------------------|
| 1   | Social capital through improper means designated procurement channels and manufacturers |
| 2   | During the operation period of the project, the capital side stops or shuts down without authorization, which affects the public interest |
| 3   | Social capital will hand over projects with environmental legacy problems |

| No. | Uncertain event                                                                 |
|-----|--------------------------------------------------------------------------------|
| 4   | Project status exceeds expectations or exceeds current design maximum load |
| 5   | The transfer of the item cannot arrange the work of the employees of the original company, which will affect their employment |
| 6   | Project screening is not transparent enough |
The *World Bank guide to PPP contract terms* focuses on the "Financing" of the project and the government's understanding of the project at the time the contract is signed. The list of uncertainties in the bank's PPP guide is as follows.

**Table 4.** List of uncertain events in the World Bank guide to contract terms

| No. | Uncertain event                                                                 | No. | Uncertain event                                                      |
|-----|--------------------------------------------------------------------------------|-----|----------------------------------------------------------------------|
| 1   | Risk loss is not included in the tender offer                                  | 6   | The dispute cannot be resolved in a timely manner                    |
| 2   | Loan repayment mechanisms are unclear and risk adverse effects on expected income streams | 7   | Make uncertain decisions about feasibility                            |
| 3   | The subcontractor enjoys higher force majeure protection than the social capital party | 8   | Projects are nationalized or long-term expropriated                  |
| 4   | The contract does not specify the calculation method of interest distribution after refinancing | 9   | The operation period big fluctuation adjusts the price, loses most consumer and violates to the project commonweal |
| 5   | Business taxes or surcharges introduced by the government are not consistent with this item | 10  | The environment around the project is not conducive to the development of the project |

3. **Cause and influence analysis of renegotiation based on uncertain events**

Based on the uncertain events analyzed above, text analysis method is used to analyze the renegotiation events caused by uncertain events in each stage of the whole life cycle of PPP projects.

3.1. **Identify the phase**

The main task of this stage is to screen out the projects that are suitable for PPP mode from various projects reported.

According to the Operating guide for cooperation between government and social capital *(Financial [2014] No. 113)*, "the Ministry of Finance and industry authorities shall conduct screening and evaluation to determine alternative projects." However, in the actual operation of the project, due to the non-disclosure of the information in this process, the project officials will control the screening method, screening conditions and screening scope to include their specific projects, which cannot avoid the special social capital to obtain franchise rights through huge amount of rent-seeking operations. It can be seen that the transparency of project screening at this stage is a renegotiation event.

3.2. **Preparation stage**

At this stage, the responsibility of the government department is to formulate the promotion plan through the establishment of the implementation agency and promotion team of PPP projects.

*Financial [2014] No. 113* pointed out that "pay for part of the government or governmental subsidy project, carry out financial capacity argument", *Financial [2015] No. 21* also mentioned "when making capability assessment of fiscal expenditure, the future annual general public spending amount can be reference to the first five years of relevant amount of average and the average growth rate calculation, and appropriate adjustments according to the actual situation." However, differences in the speed of development, population density, political and cultural background of China's regions all have an impact on the budget. Therefore, it can be judged that the current indicators cannot accurately judge the government's financial bearing capacity, which cannot guarantee the selection of PPP projects and the binding force of PPP projects. Thus it can be seen that the accurate prediction of the government's fiscal capacity is the renegotiation event.
3.3. Purchase stage

The main task in the procurement stage of the project is to select the social capital suitable for PPP project. The choice made in this stage will directly affect the risk bearing capacity of the project and whether the project can proceed smoothly in the later stage.

The Law of the People's Republic of China on tendering and bidding (Order of the President No. 86) stipulates that "a tenderer shall not restrict or exclude potential bidders with unreasonable conditions and shall not discriminate against potential bidders". Although bidding control is carried out on the tenderer, it is difficult to avoid the collusion between the bid inviting unit and the intended bid winning unit and exclude other bid winning units by setting unreasonable conditions in the contract terms. In addition, the intended bidders may bid at a lower cost, adopt late changes or reduce the quality of service to gain profits[1].

In addition, according to the requirements of the financial department, the procurement of PPP projects must be subject to compulsory prequalification. However, in the actual bidding process, some projects adopt post-qualification prequalification instead of pre-qualification, resulting in prevarication and other behaviors of all parties in the later stage, resulting in slow progress of the project. Therefore, it can be seen that whether the bidding terms are reasonable and the standardization of project bidding procedure is a renegotiation event.

3.4. Execution phase

The implementation phase of the project is the stage in which the renegotiation events are concentrated.

In the process of PPP project execution, each participant has different goals. The government aims at safeguarding public interests, while social capital aims at the ultimate profit. Therefore, conflicts of interest may arise in the pricing of envy operation stage. But because of price caps, capital can only increase profits by increasing productivity and reducing service quality. Faced with the choice, the capital side tends to choose the latter to reduce and improve returns, while the government department tends to ignore the requirement of quality service, violating the regulators' willingness to improve quality by improving production efficiency [2].

In some countries, the projects that implement the PPP model are easy to affect the lives of the surrounding residents. If the project is in poor condition, some of them will cause greater environmental problems. For example, the Shuanggang garbage incineration power plant in Tianjin city has caused panic and continuous petitioning among the surrounding residents due to the toxic gas generated by the incineration.

To sum up, the quality of project operation and service as well as the impact of environmental pollution on the surroundings are renegotiation events.

3.5. Transition phase

Transition phase is the last stage of the project. The main task of this stage is to ensure the smooth handover of the project. At this stage, the main renegotiation events are relatively obvious, and the materials and files are not complete when the project is handed over. Social capital will hand over projects with environmental problems. The transfer of the item cannot arrange the work of the employees of the original company, which will affect their employment.

4. Study on renegotiation control mechanism

4.1. Renegotiate triggering event hierarchy

By definition, we divide renegotiation into event level renegotiation and project level renegotiation[3]. Based on the above detailed description of the renegotiation trigger event, the hierarchical division is carried out, as shown in the figure below.
4.2. Renegotiate event control

4.2.1. Renegotiate the embedded contract

Embedding the renegotiation into the contract can avoid the breach of the relationship between the two parties and save the cooperation crisis. The birth of PPP model is aimed at solving difficulties in public service supply, and its logical starting point is "cooperation" to increase efficiency rather than "confrontation"[4]. Many projects have encountered operational difficulties in the middle of operation, mainly due to the lack of good communication channels between partners[5]. Therefore, embedding the renegotiation into the contract can enable both parties to fully negotiate the new changes facing the project, timely adjust the contract conditions, effectively avoid risks and ensure the normal operation of the project.

4.2.2. Renegotiate the implementation

In view of the uncertainty of the long cycle of PPP projects, in the process of contract performance, not all unforeseeable events can be solved through contract terms or renegotiation, and the situation of contract adjustment can be stipulated in the contract system[6] to make renegotiation procedural. The contract may specify a mechanism for regular problem sorting and negotiation between the parties, which may involve the redistribution of rights and obligations between the parties. To reduce the waste of resources and promote the smooth progress of the project for the purpose of maximizing the maintenance of the relationship between the two parties and the balance of interests.

5. Conclusion

Through the analysis of performance obstacles in the previous PPP contracts and related guidelines of existing PPP projects, a total of 35 uncertain events were determined. Based on uncertain events, text analysis was used to analyze the causes and impacts of renegotiation events in each implementation process of the whole life cycle of PPP projects. Finally, it classifies the renegotiation events and puts forward two renegotiation control methods: the design of the beforehand mechanism and the supervision of the afterwards problems, which can provide reference and basis for the subsequent Suggestions on the setting of contract terms.
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