THE TRANSACTION COSTS OF PUBLIC-PRIVATE PARTNERSHIPS: IMPLICATIONS ON PPP GOVERNANCE DESIGN

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ABSTRACT

PPPs have become a major scheme in supplying the needs of public works and improving the efficiency of project delivery. The administration of PPP projects, however, is a challenging task because the governance of PPPs involves unique relationships between public and private parties as well as complex financing issues. While the higher efficiency due to better utilization or pooling of resources is largely emphasized in PPPs, the impacts of transaction costs embedded in the PPP scheme are often understated. In many cases, the high transaction costs could render PPPs an infeasible or inferior alternative for providing public infrastructures and services. As such, this study examines the intrinsic sources and their associated factors for transaction costs embedded in PPPs. Specifically, we identify three major sources of transaction costs in PPPs, namely, the principal-principal problems, renegotiation and hold-up problems, and soft budget constraints. The profit structure of the private promoters in PPP projects is especially analyzed to highlight the internal conflicts of interests among various stakeholders. A process framework based on game theory perspective is further proposed to explore the interaction dynamics between government and project promoters under asymmetric information. The process framework helps to evaluate the potential transaction costs that may occur in different interaction scenarios. Particularly, we identify some major variables that may cause significant transaction costs in PPPs and derive strategy implications for the design of more efficient PPP governance. These transaction cost sensitive variables include specific characteristics of the project itself and certain conditions characterizing institutional environments. This paper contributes to the theory and practice by providing a framework for understanding how the PPP governance can be better designed and for examining whether PPPs are a suitable governance structure for a particular project.

KEYWORDS: Public-Private Partnerships, transaction cost, renegotiation, hold-up problems, soft budget constraints, principal-principal problems.

1. INTRODUCTION

Public-Private Partnerships (PPPs) have become a major scheme in supplying the needs of public works (Walker and Smith 1995). PPPs are distinctive from the traditional public delivery in many aspects; in particular, the better pooling of resources and the opportunism embedded in PPPs. In terms of governance structure, PPPs can be considered an alliance between the government and private parties, which is governed by a long-term concession/contract agreed by two major joint partners, the PPP concession firm and the government.

While various market failures, such as externality and monopoly, have been the most fundamental reason that government should take the role of providing infrastructures, the high contracting costs due to transaction-specific investments and uncertainty, as argued by Williamson (1998, 1999), may also be the major reason why many types of infrastructure projects are to be governed strictly under public bureaucracy, as opposed to private bureaucracy. Nonetheless, allowing the private sector to manage certain functions of project implementation may achieve

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significant improvements, e.g., the saving of time and costs for the life cycle of the project (Henk 1998). From the resource-based view, the use of PPPs can be explained by the rationale for alliances as argued by Das and Teng (2000) that value-creation potential of resources can be obtained when the resources are appropriately pooled together. The partnering firms share, exchange and aggregate their own valuable resources with each other in order to seek synergy and improve efficiency and effectiveness. In PPPs, the public and private sectors establish inter-organizational collaboration so that complementary resources and competencies may be accessed and utilized. The government attempts to achieve efficient production and operation of public facility or service by introducing financial, technological, managerial or innovative skills of the private partner. For example, developing countries especially tend to expand infrastructure provision through private finance due to limited funding. At the same time, private promoters aim to maximize their profits through gaining the concession from the government to execute and operate the project.

However, the governance of PPP projects is a challenging task because PPPs involve unique relationships between public and private parties as well as complex financing issues. While the higher efficiency due to better utilization of resources is largely emphasized in PPPs, the impacts of transaction costs embedded in PPP scheme are often understated. In many cases, the high transaction costs could render PPPs an infeasible or inferior alternative for providing public infrastructures and services. The transaction costs in PPP alliances are very different from that in other common alliances because (1) PPP projects are often public service/facility oriented, (2) project finance is typically used in PPPs, and (3) one of the partners is government. These differences contribute to many problems which may cause significant transaction costs. Generally, the transaction costs of PPPs that can be observably identified and measured may include the advisory costs for legal, financial, and technical matters, costs for organizing and participating in the bidding process, costs for negotiating the concession contract, and costs of monitoring and contract management throughout the project’s life cycle. According to an investigation of Dudkin & Valila (2006) into the PPPs in UK, the costs related to the procurement phase of PPPs alone will amount on average to well over 10 percent of the capital value of the project, which can have the potential to erode the savings achieved through PPPs. However, there are other major transaction costs that are hidden and not easily assessed, e.g., the opportunism costs due to renegotiation and hold-up problems (Ho 2006), and these costs may significantly undermine the expected benefits in PPPs and sometimes cause disastrous impacts on the society. In an equilibrium, these hidden costs will eventually be priced by government and investors through proper discounting. Therefore, an important challenge in PPP governance design is to reduce these hidden costs to an acceptable level.

On the other hand, although an ideal governance structure should improve the production efficiency and, at the same time, economize on the relevant transaction costs, different governance mechanisms often present different tradeoffs between benefits and costs. Therefore, choosing from the alternative schemes of project deliveries entails careful evaluation of the comparative tradeoffs between transaction costs and internal capabilities or benefits (Parker and Hartley 2003). Therefore, the other major concern in PPP governance design is to determine whether PPPs are a suitable governance structure for a particular project.

As such, this paper aims to study how the PPP governance can be better designed and how to determine whether PPPs are a suitable governance structure for a particular project. The organization of this paper is as follows. Section 2 analyzes the causes of the major transaction costs and the institutional and project environments from which transaction costs are resulted. In section 3, a process framework for the interactions between the public and private sectors of PPP projects is proposed. The process framework contributes to the understanding of the players’
interacting dynamics in PPPs and the derivation of strategy implications on PPP governance. We discuss the implications on PPP governance design and choices in Section 4, and finally draw conclusions in Section 5.

2. TRANSACTION COSTS OF PUBLIC-PRIVATE PARTNERS

The concession contract of a PPP project establishes complex and long-term relationships between the public and private parties. The principal-principal problems, a variation of the principal-agent problems, have not received as much attention as it should be in the field of PPP studies. In PPPs, the use of project finance in PPPs induces the project promoter, the controlling shareholders, to behave opportunistically taking advantage of passive principal. In addition, since PPP concessions are inevitably incomplete, mainly due to the uncertainty and bounded rationality, PPP projects are subject to renegotiation and hold-up problems. Furthermore, the syndromes of soft budget constraints pervasive in public utility industries or infrastructure projects may also lead to substantial transaction costs and economic inefficiency. In this section, we discuss why certain characteristics of PPPs give rise to these hidden transaction costs and when these transaction costs will become significant and may render the PPPs an infeasible or inferior alternative for providing public infrastructures and services.

2.1. Principal-Principal Problems and the Profit Structure of PPPs

Principal-principal problems refer to the conflicts between the firm’s controlling shareholders and minority shareholders, resulting from concentrated ownership, extensive family ownership and control, business group structures, or weak legal protection of minority shareholders. Although these causes are often observed in countries with less matured institutions, unfortunately, principal-principal conflicts seem to be embedded in PPPs, even if the projects are undertaken in developed countries. In principal-principal problems, the controlling principal who appoints the major directors of board and top managers of the firm might exploit their private information and dominant positions to appropriate from minority shareholders. Forms of appropriation include below-market value asset transfers to the private holdings of the controlling shareholders, corporate expenditures on non-value creating assets for the private consumption of controlling principal, and corporate diversification plans that trade investments returns for stable cash flows to benefit the portfolio of controlling principal (Yiyi Su 2008). As a result, the organizational performance may be seriously undermined by the principal-principal problems.

2.1.1. Promoter’s profit structure of PPPs

In PPPs, the sources of the promoters’ investment returns will not only come from the returns of equity investments in the concessionaire, but also from the construction and operation contracts since the promoters may also act as the major contractors for construction and operation. Therefore, in PPPs it is unrealistic and even dangerous to assume that the objective of promoters is to maximize the concession firm’s value.

The profit structure of a PPP investment can be better explained by the PPP business model illustrated in Fig. 1, which shows that the returns of PPP investment include equity returns, construction contract returns and operation contract returns. We will call the three profit components together the PPP “profit pool” in this study. From the promoter’s perspective, the profits from a PPP investment are the overall returns from the profit pool. Moreover, how these components are pooled in terms of their relative proportion will have major influences in determining the returns from profit pool, the promoters’ investment and potential opportunism, and the interactions between the government and promoters.
First Component: Equity Returns. The first component in the profit pool is the equity returns from the equity invested in a PPP firm. In PPPs, following the project finance practice, the promoters will become one of the major shareholders of the PPP firm, whom shall be called “controlling principal” in this paper. The equity invested by non-promoters will be considered as the “passive equity,” owned by “passive principal.” Unlike the passive principal, such as insurance companies, who mainly focuses on the returns from equity investment, the promoters, being the controlling principal, will aim to maximize the overall value of the combined pool of profit components. In other words, the equity returns are not the only profits sought by the promoters in a PPP project.

Second Component: Construction Contract Returns. As Walker & Smith (1995) observed, since most construction firms are thinly capitalized and rely heavily on short-term debt financing for their capital needs, they are usually reluctant to invest their limited and expensive capital in PPP equity and largely focus on construction contracts. This is especially true when the concession period is long and the returns from equity are slow.

Third Component: Operation Contract Returns. The third component in the profit pool is the returns from operation contracts. The operation contracts refer to the contracts for the daily operation and regular maintenance after the project is completed or the operation commences. For example, the insurance policies for the facility properties, firm employees or operation liability can be considered part of the operation contracts. Other operation contracts may include supply contracts for operational inputs, contracts for regular maintenance, and contracts for outsourcing services, etc. Those who are capable of undertaking operation contracts and consider these contracts profitable may invest in the project as one of the controlling principals. An important characteristic of the operation contract returns is that the returns are possible only when the project is completed and the PPP firm continues with the operation. This difference between construction contract returns and operation contract returns plays an important role in the governance design of PPPs as we shall discuss later.
Principal-principal conflicts exist naturally in PPPs because of PPP’s governance mechanism and profit structure. First, the complicated profit structure of the promoters underlying PPPs, one of the critical characteristics of PPPs, gives strong opportunism incentive in principal-principal hazards under certain situations as we shall soon discuss. Second, as in the principal-agent problems, being the controlling principal of PPP projects gives the promoters the opportunism capability to exploit private information in seeking appropriable rents from passive investors. For example, the construction contracts of a PPP project are often criticized of being awarded to contractors owned by, or associated with, the controlling shareholders at above-market prices. The controlling principal in PPPs, who appoints and controls the board of directors, may benefit from manipulating the construction contract prices and clauses, but thus, the minority shareholders, subject to severe information asymmetry, suffer from losses in equity returns. Although such opportunistic behaviors might also reduce the controlling principal’s returns from equity, the controlling principal’s overall returns from the profit pool may be increased if significant returns can be crafted from construction contracts or the controlling principal’s equity investment is considerably small.

In those cases where equity is allowed to be raised publicly before project completion, the passive principal will be in an even weaker position because of the serious information asymmetry in unfinished projects and the relief of the controlling principal’s equity investment requirement. The disastrous losses in the Channel Tunnel equity raised in 1987 before project completion serve a good example of the unbearable consequences due to the serious information asymmetry before project completion/operation. More fatally, since the use of project finance in PPPs allows a low equity ratio, the debtholders, who provide most of the capital needs, may also be transformed into another de facto passive principal, who exposes a large amount of limited/non-recourse capital in the risk of principal-principal hazard.

As such, principal-principal conflicts may seriously impair the performance and financial situation of the project and lead to significant transaction costs. First, the potential moral hazards and subsequent costs expected by the “farsighted” or “experienced” passive principal may be quite high and will in turn be reflected by high required equity premium (discount rate) that corresponds to high risks. Second, as more financing banks or institutions realize that they are also exposed in serious principal-principal conflicts, they may not be willing to provide the funding needs for PPP projects without some forms of government guarantees. Unfortunately, the guarantees from governments will further aggravate the soft budget constraint problems, as we shall soon discuss, and increase the transaction costs. Third, the principal-principal conflicts also discourage the controlling shareholders to promote strategies in best interests of the project/concession firm’s overall performance and, hence, reduce the economic efficiency.

From this perspective, some critical determinants concerning the principal-principal problems can be identified. As shown in Table 1, the first category of such determinants is related to project characteristics, including information asymmetry, project structure and the composition of controlling shareholders. The projects that have relatively large portion of returns (for promoters) from construction contracts or mainly short-term profit oriented controlling principal will tend to suffer the principal-principal problems. The second category is related to institutional environments, including legal systems and PPP administration practice, PPP policies, and financial markets. For example, a matured legal system may have more effective mechanisms in discouraging or preventing the incentives and opportunities for principle-principle problems.
Table 1. Factors and Situations Causing Transaction Costs in PPPs

<table>
<thead>
<tr>
<th>Project Factors</th>
<th>Institutional Factors</th>
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<tbody>
<tr>
<td>• Project scale: too large to fail</td>
<td>• PPP policies: immature and not effective</td>
</tr>
<tr>
<td>• Project nature: too important to fail</td>
<td>• PPP administration: inexperienced and inconsistent</td>
</tr>
<tr>
<td>• Project complexity: too difficult to replace the incumbent firm</td>
<td>• Financial markets: immature</td>
</tr>
<tr>
<td>• Profit structure: large construction contract returns, slow equity return</td>
<td>• Hardness of budget constraint: too soft</td>
</tr>
<tr>
<td>• Composition of shareholders: the lack of major shareholders who are interested in the returns of operation contracts</td>
<td>• Legal system: immature</td>
</tr>
<tr>
<td>• Information asymmetry: too high to differentiate the promoter types</td>
<td>• Political environment: unstable and immature</td>
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2.2. The Renegotiation and Hold-up Problems

While analyzing the sources of market failure, Williamson maintains that uncertainty and the bounded rationality of human actor will result in contractual incompleteness (Williamson 1975). Complex contracts are inevitably incomplete and many are maladaptive (Williamson 1985). In addition, the presence of information asymmetry and opportunism together contribute to contractual incompleteness (Ayres and Gertner 1989). As argued by Hart (1995), contract incompleteness will then lead to renegotiation situation since renegotiation generally gives contracting parties better ex post payoffs. However, during the renegotiation, the one who can hold up the other party will dominate the renegotiation and obtain relatively better payoffs. For example, if there are relation-specific investments from one party, these idiosyncratic or asset specific investments will give rise to the hold-up opportunity from the other party. Thus, renegotiation and hold-up problems are often associated together.

As PPPs mainly serve as an alternative mode for public works, the concession contracts are usually long-term contracts and the project scale tends to be large. Thus, the level of uncertainty and complexity in PPP projects will cause the contracts to be highly incomplete. Given the presence of contractual incompleteness, PPP projects are further subject to renegotiation and hold-up problems. In particular, the high opportunity costs of replacing the incumbent concession firm, even in the early stage of a concession, are one of the major causes that hold up the government for renegotiation. For example, the long and costly procurement process and the complicated financial and legal arrangements will render the costs of replacing the promoters to be very high. This explains why, as we observed in practice, government is so easy to open the door for renegotiation once the contract is awarded and so reluctant to enforce the concession contract when government has the right to terminate the concession. Ho’s (2008) case study of Taiwan High Speed Rail project, one of the largest PPP projects in the world, gives detailed analyses of the major renegotiation events throughout the project construction period and shows the severity of renegotiation and hold-up problems. The main theme of PPP renegotiation and hold-up problem is that the high enforcement costs of taking over the project may preclude the government from exercising contractual rights in the event of breach by the private parties. Therefore, substantial transaction costs can be caused by renegotiation and hold-up problems. The costs will include not only the losses due to the lower bargaining power but also the more significant costs due to the ex ante expectation of renegotiation (Ho 2006). Other transaction costs due to the renegotiation and
hold-up problems may include the followings. The government risks a long-term decline in internal capability to provide particular services, thereby raising the costs of future switch to in-house provision. Moreover, the concession firm can be expected to exploit their monopoly power; for example, by charging highly for extra services beyond the original contractual requirement, or by insisting upon an extension to the original contract (Parker and Hartley 2003).

Note that it is also possible that government will hold up the concession firm when the legal system or political environment is not mature and the government has little to lose by violating the contract or promise. This is often considered as political or institutional risks. In this case, the government may easily force the concessionaire to renegotiate under the host government’s sovereignty. To address such issue, while it may, to some degree, mitigate the private sector’s concerns on being “held up” by vesting the ownership over project assets in the private party, the privatized property rights reinforce the private concessionaire’s ex post bargaining position (Bettignies and Ross 2004). In addition, the allocation of property rights to the private concessionaire exposes the government to potential opportunism of the private parties because the private ownership provides the concessionaire with more private information and the problem of information asymmetry is thereby aggravated.

From the perspective of renegotiation and hold-up problems, some critical determinants can also be identified as shown in Table 1. The project related factors may include project scale and project complexity, which will largely affect the costs of contracting or terminating a contract. Institutional factors may include the legal system and the political environment as explained above.

2.3. Soft Budget Constraints

The phenomenon of soft budget constraints was first studied in the context of transitional socialist economies, in which firms were always bailed out by government from financial difficulties with refinance or other forms of subsidies. Thus, it is said to have soft budget constraints when firms in the event of financial failure can always expect to be bailed out. By contrast, if firms can spend only as much money as they have and thus grave financial difficulties will drive the firms to bankruptcy, the budget constraints are said to be “hard” (Kornai 1979).

Among the variety of motives for the government to bail out poor projects, some deserve to be explicated here: First, in order to avoid economic spillover effects, very often, government is left few choices but to rescue the failing enterprise where the enterprise is often deemed “too important to fail.” Second, it might be prohibitively costly to liquidate some poor projects, e.g., a large scale project can be “too big to fail.” The government would be forced to tolerate the nonperformance of the enterprise (Kornai et al. 2003). Third, fiscal centralization may also lead to softer budget constraints (Qian and Roland 1998). The problems of soft budget constraints lie in its ex ante effects on the behavior of the firm, which are also presented in renegotiation/hold-up problems. If the firm expects that the firm would be bailed out from financial failure, the firm will use less costly efforts in operation, acquire excess production capacity, or make aggressive investments (Ho 2006; Schaffer 1989). In short, the softness of budget constraints may result in aggravate opportunism and economic inefficiency.

In PPPs, the projects are usually public service/facility oriented, and have significant influences on public interests. The success of some particular PPP projects might help to increase the GDP of economy and improve the infrastructure for industrial development. Nevertheless, failures of these projects may also result in chain reactions of bankruptcies, mass redundancies, and even recession. Since one of the major roles of government expected by public is to maximize the social welfare, the overall economic effects will be taken into account when the government decides whether to bail out the project on the brink of bankruptcy or to liquidate the project. For these reasons, government may prefers to rescue the concessionaire ex post via various means such as reducing project’s liabilities, relieving promoter’s investment or schedule obligation, increasing
service charges, granting subsidies or tax exemptions, and lengthening the contract duration, etc. For example, in the case of Channel Tunnel, the project is both too important and too large such that the government has to bail out the project by extending its concession period and assisting its financial restructuring.

As such, PPP governance has the tendency to create soft budget constraints, which may cause substantial transaction costs. First, ex ante, the private entrepreneurs expecting future renegotiations to favor them will have weak incentives to perform, to reduce costs, to improve quality of service, and to innovate. Second, they enjoy a de facto low exposure to risks leading to financial disequilibrium, which encourages them to aggressively take risky investments at the outset and seek to renegotiate with the government when the projects are faced with financial difficulties (Ho 2006). Lastly, renegotiation due to soft budget constraints brings the costs from the commitment loss: if abused in the past, the public sector’s reputation may be ruined, and this can reduce the incentive power of future contracts and distort competition in future tenders (Iossa et al. 2007).

From this perspective, some critical determinants concerning the tendency of soft budget constraints can be identified. As shown in Table 1, the project related factors may include project scale and project nature. Those projects that are too large to fail or too important to fail tend to create soft budget constraints. The factors related to institutional environments may include economy situations, track record of the hardness of budget constraints, political environment and maturity, and legal system, etc. Note that the hardness of the budget constraint is not simply a policy announcement. If the government’s net benefits from bailout are greater than that from bankruptcy of the firm, such an announcement cannot be credible. The government is still subject to a failure of commitment (Kornai et al. 2003). A valid institutional environment refraining the government from undertaking bailout must be in place to discourage the firm acting opportunistically.

3. A PROCESS FRAMEWORK FOR INTERACTION DYNAMICS IN PPPS

Based on the above study of the transaction costs embedded in PPPs, we propose a process theory as exhibited in Fig. 2. The process framework contributes to better understanding what may induce the problems that cause transaction costs and how these problems are handled in terms of the interaction dynamics/games, and then lead to outcomes in government’s social gains, transaction costs, and the promoters’ overall payoffs from their profit pool. The framework also helps to derive implications for PPP governance design.

In this framework, the government and private promoters make their own decisions under specific project characteristics and institutional environments, where principal-principal problems, renegotiation and hold-up problems and soft budget constraints may give rise to significant transaction costs and thus affect the parties’ interaction dynamics and decisions. All decisions made by the players are jointly determined by each player’s objective and the interaction dynamics/game being played. Particularly, we assume that the government’s objective is expected to maximize the overall social welfare and the private promoters’ objective is to pursue maximization of overall returns from the PPP profit pool. The degree of goal incongruence influences the interactions between the government and promoters.

From the game theoretic perspective, the interaction dynamics between the PPP players can be regarded as a dynamic game with incomplete information, where the government cannot obtain credible information concerning the type or the intention of the promoters. As a result, the interaction process in PPPs, as shown in Fig. 2, focuses on possible opportunism from the players, government screening strategies or policies, and the promoters’ signaling strategies. The opportunism here is mainly due to the problems discussed in section 2 that may cause significant
transaction costs. This perspective of PPP governance mechanism will help to derive implications for governance design based on previous analyses.

According to this process framework, from the government’s perspective, it is essential to consider the relevant transaction costs caused by the promoters’ various types of opportunistic behaviors and, then, to establish screening and administration policies that may reduce the incentives for and capability of opportunism. Similarly, the promoters will make her investment decisions, including concession negotiation, equity investment, and management efforts, etc., in response to the government strategies.

If the government is too naïve or too inexperienced in PPPs, the transaction costs caused by opportunism will be high. PPPs will not be an appropriate governance structure if the transaction costs are too high. For instance, given certain institutional environments and project characteristics, the government cannot observe the type of promoters at the outset, and the failure of the project is unendurable. The government would be easily held up by the concessionaire after the concession has been granted. There are few choices for the government but to bail out the project in the event of difficulty. Having foreseen the government’s actions, the promoters would submit opportunistic bid ex ante in order to win the concession, and, then, appropriate excess profits from the public ex post. Consequently, the economic efficiency cannot be achieved in equilibrium, and PPPs may not be a proper governance structure for the particular project.

Lastly, the interaction dynamics between the public and private sectors affect each party’s evaluation of the outcomes of a PPP project, namely, social gains, transaction costs, and returns from the profit pool. The conditions under which PPPs are well-suited for infrastructure projects may thus be identified.

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**Fig. 2 The Process Framework of PPP Interaction Dynamics**
4. IMPLICATIONS ON PPP GOVERNANCE DESIGN

The conditions under which the PPPs may be utilized as a suitable governance structure to deliver public facility/service depend upon the underlying institutional environment and the project characteristics, which determine the hidden transaction costs in PPPs discussed previously. PPPs as a governance structure would be suboptimal for public facility/service projects where the resultant transaction costs overweigh the value or synergy created by applying PPPs. Table 1 summarizes some major candidates of those factors, as discussed in previous section, that are implied by the theory proposed in this paper. The potential corresponding situation of each factor that may induce significant transaction costs in PPPs is also summarized in Table 1.

Previous analyses also give us implications on PPP governance design. On the one hand, from the perspective of transaction costs caused by institutional factors, to favor the use of PPPs, the ex ante tendering policy and ex post administration should be so designed that opportunistic behavior of the partners can be discouraged so as to economize long-term transaction costs. For example, during the tendering process of PPP projects, the government can try to specify certain evaluation criteria and their weights, based on game theory analysis, in order to screen out poor (pretending to be good) promoters or project proposals and award projects to the best feasible promoters. As to the ex post administration, the government needs to consider long-term costs while choosing the governance policies. The governance design should be able to overcome the institutional deficiencies arising from unbalanced profit structures and goal incongruence among stakeholders involved in the project. When the political environments, financial markets, and legal systems are too immature to discourage and manage opportunism of relevant stakeholders, PPPs cannot be a desirable alternative to providing public works.

On the other hand, from the perspective of transaction costs caused by project factors, the desirability of using PPPs may vary substantially depending on project characteristics. PPP approach in reality cannot efficiently apply to all the public facility/service projects. PPPs should not be applied to projects that are too important or too large to fail. Government can emphasize on a more balanced composition of controlling shareholders for better incentives. Government should place more emphasis on verifiable information such as track records rather than the proposal itself. When information asymmetry is severe and prevents the government from differentiating the promoters’ types and monitoring the concessionaire’s performance, the conventional approach should be applied to develop the project.

5. CONCLUDING REMARKS

Government contracting through PPPs should not be treated as a one-way street. Not all infrastructure projects should be contracted out. In practice, some governments began with contracting out and, then, back to in-house to balance economical and political concerns to secure public value. The use of PPPs will not necessarily lead to improved overall economic efficiency (Parker and Hartley 2003). In absence of appropriate institutions for effective administration, market solution may not be optimal (Hefetz and Warner 2004). To a degree, the high transaction costs could render PPPs an infeasible or inferior alternative.

Specifically, we identify three major sources of transaction costs in PPPs, namely, the principal-principal problems, renegotiation and hold-up problems, and soft budget constraints. The profit structure of the private promoters in PPP projects is especially analyzed to highlight the internal conflicts of interests among various stakeholders. A process framework based on game theory perspective is further proposed to explore the interaction dynamics between government and project promoters under asymmetric information. Since the high transaction costs undermine the competition and deter creation of value for money, the policy choices in associated with the ex ante tendering process and ex post administrative mechanism should take into account of the
interaction dynamics of the public and private sectors. Lastly, we list some project and institutional factors that may result in the opportunism problems that cause significant transaction costs to PPP projects. These factors may help to examine how well the PPP governance is designed and whether PPPs should be adopted for a particular project. PPPs may be the optimal approach for project delivery only if related transaction costs are effectively controlled and mitigated.

REFERENCES