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Contracts, governance, and country risk in project finance: Theory and evidence

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ABSTRACT

Project finance links financial structure to the operational characteristics of the project to optimize the allocations of various project risks. We develop a model in which concession grants and offtake agreements benefit both public and private sponsors in the presence of political risk. The public can use these contracts to incentivize the private sponsor to undertake an otherwise unacceptable project while benefiting from delegating the process of financing, building, and operating the project to the private sponsor. For the private sponsor, the government concession grant, while improving financial returns, entails political influence. We develop hypotheses connecting these contract choices to the public–private partnership governance structure of project finance and provide supporting evidence. Our findings suggest that a country's political and financial risks have significant impacts on the contract choice as well as the public–private governance structure in project finance. Projects in greater political risk countries tend to be structured with less government involvement in order to avoid political influence of the local government. Projects with the private finance initiative end up with more government involvement and control in order to protect the public interest.

1. Introduction

Project finance (PF) is an organizational form with the sole purpose of executing a project with the use of non-recourse debt. The legal separation of the project company segregates project cash flows from the sponsor's other assets, preventing inefficient investment or cross-subsidization of other divisions (Scharfstein and Stein, 2000). Moreover, the various features of the contracts involved in project finance work to minimize various agency costs. For example, in addition to the contract to complete the construction with certain conditions, many other contracts are united in vertical chain from input suppliers to output buyers in order to reduce the various agency problems (Esty, 2003) and to increase the verifiability of the cash flow from the project (Subramanian et al., 2008). The contracts among multiple parties to project finance also shift a variety of project risks to those who are best able to appraise and manage them (Brealey and Habib, 1996; Byoun et al., 2013; Engel et al., 2010).

For the analysis of governance issues, PF provides an attractive controlled environment free from various influences that are present in corporate finance. For example, PF is a standalone entity with highly concentrated equity ownership and capital structure comprised almost entirely of a single tranche of bank debt. As a stand-alone entity, PF's structural details are easily observable to outsiders, whereas structural decisions of corporations can be obscured by other corporate activities (Esty, 2004). Moreover, exclusive reliance on external finance with high leverage for PF removes the agency problem related to managerial

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discretion on the use of free cash flow, which is the main issue in corporate governance (Jensen, 1986). Furthermore, there is no agency problem of asset substitution (Jensen and Meckling, 1976) or underinvestment (Myers, 1977) because there are no assets in place at the time of PF. Thus, PF is free from various agency problems arising from the existence of assets in place, different tranches of debt, and controlling versus non-controlling shareholders. For these reasons, PF is particularly attractive to examine broader governance issues related to project risk in a relatively controlled environment. The highly concentrated ownership and capital structures for PF provide strong incentives for capital providers to make long-term assessments of project, industry, legal, and political risks associated with PF. The ensuing extensive contracts reflect a unique governance mechanism for PF. Accordingly, we can observe the determinants and impacts of various structural decisions in a cleaner and more transparent way in PF than in a corporate setting (Byoun et al., 2013; Esty, 2004).

In contrast to the much advancement in understanding how the structures of PF address various project-specific risks, there is little research on whether and how political risk affects the basic contract form and the public–private partnership governance structure of PF. This is an important omission because the impact of political risk on project cash flows is the utmost concern for the feasibility of PF due to its non-recourse nature of financing. Besides, we have little understanding on the interaction between contract forms and governance structure in PF. Because the lender has recourse only to cash flows from the project, mitigating the effect of political risk on project cash flows is a vital aspect of the feasibility of project finance. So the fundamental questions are: Can the public or the private better manage the exposure to political risk? Are the contracts in PF structured to address the country's political risk? Is the public–private joint undertaking of the project a solution to addressing the political risk? Are the contracts and the public–private governance structure systematically interconnected? This paper seeks answers to these questions.

Yescombe (2007) and Engel et al. (2010) argue that the growth and spread of the public–private partnership (PPP) are closely linked to the development of project finance. In addition to the explicit form of the public–private partnership in PF, however, the local government is often involved indirectly in PF. For example, even for a privately controlled project (e.g., with the "build-own-operate" provision), the government (the public) may have an indirect involvement through a concession grant or an offtake agreement. The government often has a keen interest in the quality of the project because it will be transferred to the public at the end of its life. When a socially desirable project is not financially viable for private investors, the government may intervene with the provision of incentives or subsidies. Even for a seemingly public-controlled project (e.g., with the "build-operate" provision), the private sponsor finances, builds and operates the project. Thus, most PFs are, directly or indirectly, undertaken jointly by the public and the private in various forms.

In this study, we examine the issue of the public–private joint undertaking of the project in the presence of political risk and the agency problem of the private sponsor. In particular, we first analyze the benefits of government concession grants (or supports) and offtake agreements. We then investigate the public–private governance structure of PF in relation to political and financial risks of a country and the use of concession grant and offtake agreement. The public is concerned for an agency problem of which the private sponsor, focusing only on financial return, may not take the long-term operation of the project into consideration in its design and construction plans. When a project generates substantial externalities, which cannot be captured or priced by the project sponsor, social welfare is improved by undertaking such a project with government support. From the private sponsor's standpoint, the PF needs to provide adequate return for its risk. However, political risk and market demand risk reduce incentives for the private sponsor to take on the project with an innovation effort that improves the long-term quality of the project. The local government can thus provide a concession grant to reduce the effect of political risk against the project company or offer an offtake agreement to mitigate price and demand risk of the project output. Thus, both contracts provide financial benefits for the private sponsor. However, a government concession comes with government influence which may increase the financing cost of PF relative to an offtake agreement. An offtake agreement controls the holdup potential associated with the investment in the project — i.e., opportunistic behavior by a key supplier or purchaser from asset-specificity (Williamson, 1983, 1985). Accordingly, the offtake agreement may reduce the effect of the holdup problem on the price of the project output.

A key insight of the model is that there is a Pareto improvement in those contractual agreements. By bundling finance, construction, and operation together with concession grant and/or offtake agreement, the government can incentivize the sponsor to undertake the project with an innovation effort. These agreements reduce the effect of political and market risk on the private sponsor's return. The private sponsor's innovation effort in turn benefits the public by enhancing the quality of the project output consumed by the public. The resulting outcome is the Pareto improvement. We derive conditions for the minimum government concession and offtake agreement that are sufficient to provide incentives for the private sponsor to undertake the project and make an innovation effort in the design and construction stages of the project.

The main results from the model suggest that greater political risk requires greater government concession grant and offtake agreement in order to attract the private sponsor to undertake the project. The local government may be best able to absorb political risk by increasing the amount of government concession as political risk increases. However, government concession grants and offtake agreements create explicit and implicit costs for the public, and the government can be better off by taking the full control of the project rather than granting excessive concessions. Thus, the feasibility of such grants diminishes with political risk. Moreover, government concessions entail government influence on the project. From the private sponsor's standpoint, therefore, more government influence implies the loss of management control over the project. Future renegotiation costs increase with government involvement which in turn increases the financing cost of the project. Thus, political risk has more negative effects on the probability of a government concession than on that of an offtake agreement.

Our model also suggests that the government concession is less costly, but the offtake agreement is more costly to the public when the cash flow volatility is higher. This is because the value of offtake agreement which reduces demand/holdup risk by agreeing to purchase/sell a certain portion of the project output at a pre-specified price will be greater when the cash flow