



Are Public-Private Partnerships an Appropriate Governance Structure for Power Plants? A Transaction Cost Analysis

S. Ping Ho (1) and Yaowen Hsu (2)

(1) National Taiwan University, Dept. of Civil Engineering, Taipei, Taiwan (spingho@ntu.edu.tw), (2) National Taiwan University, Dept. of International Business, Taipei, Taiwan (yhsu@ntu.edu.tw)

In order to meet the requirements of the rapid economic growth, many countries demand an increasing number of power plants to meet the increasing electricity usage. Since high capital requirements of power plants present a big issue for these countries, PPPs have been considered an alternative to provide power plant infrastructure. In particular, in emerging or developing countries, PPPs may be the fastest way to provide the infrastructure needed. However, while PPPs are a promising alternative to providing various types of infrastructure, many failed power plant PPP projects have made it evident that PPPs, under certain situations, can be very costly or even a wrong choice of governance structure. While the higher efficiency due to better pooling of resources is greatly emphasized in Public-Private Partnerships (PPPs), the embedded transaction inefficiencies are often understated or even ignored. Through the lens of Transaction Cost Economics (TCE), this paper aims to answer why and when PPPs may become a costly governance structure for power plants. Specifically, we develop a TCE-based theory of PPPs as a governance structure. This theory suggests that three major opportunism problems embedded in infrastructure PPPs are possible to cause substantial transaction costs and render PPPs a costly governance structure. The three main opportunism problems are principal-principal problem, firm's hold-up problem, and government-led hold-up problem. Moreover, project and institutional characteristics that may lead to opportunism problems are identified. Based on these characteristics, an opportunism-focused transaction cost analysis (OTCA) for PPPs as a governance structure is proposed to supplement the current practice of PPP feasibility analysis. As a part of theory development, a case study of PPP power plants is performed to evaluate the proposed theory and to illustrate how the proposed OTCA can be applied in practice. Policies and administration strategies for power plant PPPs are derived based on the proposed theory.