

ABSTRACT

Attracting private investments to fund PPP projects in the infrastructure field has been a difficult task in recent years. This thesis builds a framework that addresses the issue related to uncertainty in prediction of traffic flow along with that of interest rates. The framework uses binomial lattice and the concept of probability to model the probable traffic flow in future. Scenario simulation is used on the model and all possible courses that the project could have taken have been recorded with the probability of occurrence in order to present the risk profile of the project under study. The importance of the risk profile of a project has been demonstrated with the help of examples simulated using the model. This work also shows how the risk profile is used for risk analysis by both the government agency as well as the concessionaire and hence it promotes a logical environment for contract formation. Various uses of this model have been discussed that include decision of operation period to be allowed to the concessionaire, setting of toll rates, application of other policies etc.

Keywords: PPP projects, uncertainty in prediction of traffic flow, interest rate, risk analysis, simulation