Using the Binomial Model for the Valuation of Real Options in Computing Optimal Subsidies for Chinese Renewable Energy Investments

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ABSTRACT

For the valuation and implementation of renewable energy investments, the issue of providing private investors with a financial incentive to accelerate their investment is frequently a critical component. We apply this principle to the Chinese context. This paper focuses on using the binomial model to compute the required subsidy that would incentivize investors to optimal immediate exercise of the American-style option embedded in projects for Chinese renewable energy investments. In addition, this paper also aims at contrasting the binomial model with the more-laborious Monte-Carlo simulation previously used to evaluate the proper subsidy. By using the same data but a different method, and reducing the number of uncertain factors to one, it is suggested these two methods have similar outcomes but the binomial method requires substantially less computation and is more self-explanatory. This paper thus provides investors with an easy-to-implement alternative way to compute the required subsidy.

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