

Efficient Capacity Investment and Joint Production Agreements in an Oligopolistic Electricity Market: The HidroAysén Joint Venture Project

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Abstract:

For a power market with the characteristics of the Chilean power supply industry, an integrated system with a System Operator (SO) with a vast authority to define the dispatch of the system, in this paper we develop a model to evaluate whether a joint power generator project between the two largest power generators can be judge as an anti-competitive strategy. Considering four investments technologies for power generation, hydro, coal, diesel, and for the joint venture an advantageous hydro technology which can only be build in a large scale (HidroAysén), we use an oligopolistic Cournot model and a Benevolent Social Planner, that minimizes the cost of electricity production and investment, both calibrated to Chilean power industry, to assess the efficiency of alternative investment strategies. We explore conditions whether the HidroAysén joint venture project of the two main power generators can be barred to be judge as an anti-competitive strategy. The Benevolent Social Planner optimal investment model suggests that the HidroAysén joint venture cannot be neglected as a social efficient investment or pro-competitive behavior on the part of the two largest power generators. Other result of the joint venture project are the benefits to consumers who should expect non increasing energy prices as a result of the advantageous hydro technology. We conclude that the fact of undertaking a joint production project with a low-cost technology by the two large agents does not mean an anticompetitive conduct.

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