

Asset Life and pricing the use of infrastructure: the case of Electricity Transmission in Chile

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Abstract:

The privatization and deregulation of electric industry implied a change in control and incentive structure that governs decision making. The degrees of regulation and competition vary within the different segments of the industry and across countries. In general, generation is seen as the segment where open competition is feasible, while electricity distribution and transmission are seen as areas where competition is more difficult and requires from tight market regulation. Beyond the different approaches to set regulated prices for the use of infrastructure, a key parameter to determine regulated tariffs is the definition of asset life. In this paper we revise the economic, technical, and accounting concepts of asset life, and analyze how changes in the economic and regulatory context affect asset life, understanding it as one of the key parameters in a tariff setting process and as a strategic variable in the definition of any optimal infrastructure investment and replacement policy. Particularly we look at the effects that changes in capital cost, demand, the presence of substitutes and complements, the regulatory framework – a pro or anticompetitive one -, technical asset life, operational costs, economies of scale, and investment planning horizon, have on the economic asset life and with it the tariffs for the use of electricity transmission infrastructure and other infrastructures.