Wind derivatives pricing issues

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Currently, the weather is being affected by the ENSO (El Niño-Southern Oscillation), the most important climate phenomenon on Earth due to its ability to change the global atmospheric circulation, influencing temperature and precipitation across the Globe. Countries boarded by the central and eastern tropical Pacific Ocean suffer surface warming. Therefore, they can incentivize sources like wind, taking into account the complementarity that exists between wind and precipitation. The purpose of this presentation is to offer alternatives for such countries to design and to price wind derivatives, using different methods that allow a comparison in terms of price and the derivatives characteristics to hedge weather uncertainties. Weather derivatives are financial instruments of hedging used to reduce weather uncertainties. Unlike traditional financial derivatives, the underlying variable of weather is not a traded asset. Given that a market for weather derivatives is highly illiquid due to the location-specific features of the contracts and the limited number of agents interested in trading them, governments interested in promoting renewables must establish measures to ensure growth potential. As well, power generators interested in producing energy with wind turbines may consider buying these instruments to hedge their cash flows against the risks associated with the variability of wind speed.

Biography

Yeny E Rodríguez is a Statistician from Universidad Nacional in Colombia, with a Master’s degree in Industrial Engineering and PhD studies in Management with emphasis in Finance from Universidad de los Andes in Colombia. Her professional experience includes working in public entities in her country. Currently, she is an Assistant Professor in ICESI University, and member of the Research Group Investment, Finance and Control at the Faculty of Administrative Sciences and Economics of ICESI. Her research interests are electricity markets, risk management, derivatives, public policy, and corporate governance of family firms.

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