

Jaeuk Ju

Ph.D. Candidate,
Applied Economics and Management,
Cornell University

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Personal Information

Date of Birth: January 25th, 1974
Gender: Male

Fields of Interest

Resource and Energy Economics
Econometrics
Finance

Education

Cornell University, Ithaca, NY
Ph.D. in Applied Economics and Management, 2007
Dissertation: "Essays on Congestion Costs of Transmission in Deregulated Electricity Markets"
Yonsei University, Seoul, Korea
M.S. in Urban Planning and Engineering (Regional Science, Lab of Urban Planning), 2001
Thesis: "Analysis of the Effect of Urban Land Use on Income Distribution and Economic Growth"
Yonsei University, Seoul, Korea
B.S. in Urban Planning and Engineering, 1999

Work Experience

E3RG (Engineering and Economics of Electricity Research Group) funded by PSERC (NSF Power Systems Engineering Research Center)
Research Assistant, 2003-2007
Seoul Development Institute
Researcher, 2002
Korea Research Institute of Local Administration
Researcher, 2001
Urban Transportation Science Research Center, Yonsei University
Researcher, 1999-2001

Publication

Euijune Kim and Jaeuk Ju, "Growth and Distributional Impacts of Urban Housing Supply: An Application of Urban Land Use and Computable General Equilibrium Model of Seoul," Review of Urban and Regional Development Studies, 15 (1): 66-81

Conferences

26th Annual Eastern Conference: Advanced Workshop in Regulation and Competition, May 16-18, 2007
Tim Mount and Jaeuk Ju, "Auctions for Transmission Congestion Contracts: a Market or a Money Machine?"

40th HICSS Conference, January 1-3, 2007

Tim Mount and Jaek Ju, "Modeling the Economic Cost of Transmission Bottlenecks"

Awards

Research Fellowship, the Consortium for Electric Reliability Technology Solutions, the Office of Electricity Delivery and Energy Reliability, Transmission Reliability Program of the U.S. Department of Energy and the National Science Foundation Power Systems Engineering Research Center, 2005-2008

Teaching Experience

Teaching Assistant for Professor Tim Mount for the course Econometrics II: Dynamic Modeling, Fall 2004

Skills

SAS, MATLAB, SQL, PHP, C/C++

References

Chair of Dissertation Committee:

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Job Market Paper

"Auctions for Transmission Congestion Contracts - a Market or a Money Machine?"

Abstract:

The purpose of this paper is to model the stochastic behavior of zonal electricity price differences and measure the magnitude and riskiness of congestion costs using the New York State electricity market as an example. The analysis focuses on the Hudson Valley and New York City because these two zones are linked by one of the most congested transmission corridors in the State. A multivariate time series model for daily temperature in different zones is estimated using data from January 1st, 2002 to December 31st, 2005 to represent the primary source of variability due to the weather. Multivariate models for the average hourly electricity load in different zones conditional on the temperature, and the average hourly spot price of electricity in different zones conditional on temperature, the load and a weighted average of past prices of natural gas are estimated. By focusing on the zonal prices in the Hudson Valley and New York City, different realizations of temperature and natural gas prices were simulated to determine the financial riskiness of holding a six-month Transmission Congestion Contract (TCC) in the summer of 2006. Actual prices for this TCC show that it would be a sound purchase by speculators and even more beneficial for firms trying to hedge real power transfers.