



# Transportation Seminar Series

*Friday, October 16, 2009  
4 - 5 p.m. in 212 O'Brien*

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### **Modeling the social welfare impacts of liberalization in the North-East Asian Long- Distance Transport Market**

**Abstract:** This paper develops a methodology to analyze the impact of gradually opening the skies with an application to the North-East Asian aviation and high-speed rail transport market. A counter-factual reproduces a representative day and then the bi-lateral restrictions within the North East-Asian market are removed in order to evaluate the impact on consumer and producer welfare. Subsequently, an open-skies policy is evaluated in which air carriers are able to re-evaluate their hub configurations and the impact on social welfare is analyzed. Subsequently, the impact of a bottleneck in the form of slot restrictions in the greater Tokyo area are analyzed with respect to the overall transport equilibria. Finally, the introduction of the Maglev, an extremely high-speed rail alternative is introduced and the new transport equilibria is presented. It would appear that whilst some of the advantages of the liberalization are passed on to consumers in the form of higher frequencies, fares also increase such that the overall consumer surplus increases only slightly. On the other hand, producer surplus does increase alongside the increases in deregulation, permitting a larger number of carriers to survive. The increase in producer surplus is not evenly spread and deregulation provides greater possibilities for exploitation to those carriers currently suffering from higher costs, namely those based in Korea and Japan. The introduction of low cost carriers in the market is advantageous to consumers and the low cost carriers alike, to the detriment of the legacy carriers. Finally, the slot restrictions transfer consumer surplus to the advantage of the producers.

**Bio:** Nicole is an associate professor in the Operations Research Department of the Business School of Hebrew University in Jerusalem but is currently on sabbatical at the Managerial Economics and Decision Sciences Department of the Kellogg School of Management. Her major research interests include data envelopment analysis (a linear program based, multi-criteria, performance measure) and game theory applied to the fields of transportation and multi-national business networks. She has published in multiple journals including Transportation Science, Transportation Research Parts A, B and E as well as the European Journal of Operational Research and the Journal of Socio-Economic Planning Sciences. Her work has been financed by various Departments of Transport around the world, the European Union research frameworks, the Israel Science Foundation and the Anti-Trust Authority of Israel. Nicole is a member of INFORMS and the Air Transport Research Society, serves on the editorial board of Transportation Research B.

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