

The Hong Kong Polytechnic University
Department of Logistics and Maritime Studies
Research Seminar

Does Price Volatility Influence Demand of Revenue Managed Goods?

by

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co-authored work with Chiara Morlottia, Paolo Malighetti, and Renato Redondi

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Time: 3:00pm - 4:00pm
Venue: R508, Shirley Chan Building
The Hong Kong Polytechnic University

(Conducted in English)

Abstract:

With the prevailing popularity of revenue management practices, firms need to better understand how consumers respond to the price changes commanded by their revenue management solutions as prices are adjusted dynamically over time, usually through opening and closing of fare classes to address varying patterns of demand arrival, while exhibiting somewhat predictable price trajectories. Accordingly, revenue-managed goods exhibit varying degrees of price volatility, which may have different impacts on consumers—some may patiently wait for price drops whereas others may get confused. Using fares and sales data collected for aviation markets, we find evidence of consumers waiting for price drops and we quantify the aggregate impact of unpredictable price volatility (i.e., fare deviations from predictable fare trajectories), and empirically reveal that with higher degrees of price volatility (above and beyond the predicted price trajectory), demand decreases along with a significant decrease in price elasticity. Intuitively, price volatility induces demand to be less elastic, whereby consumers may end up paying more, but possibly reducing the overall demand (given the higher price). Furthermore, these effects occur with even a small increase in the degree of price volatility. Reflecting on this insightful importance of consumers' responses to these price fluctuations, we incorporate price volatility into the classical revenue management model (Expected Marginal Seat Revenue), demonstrating its potential implementation benefit, while capturing the potential harm caused by the presence of strategic consumers.

Bio:

Benny Mantin is professor and the Director of the Luxembourg Centre of Logistics and Supply Chain Management (LCL), at the University of Luxembourg, which is a member of the MIT's SCALE network. His research, which covers different aspects of dynamic pricing and revenue management, supply chain management, and transportation economics, has been published in numerous leading journals, such as *Marketing Science*, *Production and Operations Management*, *Naval Research Logistics*, *Transportation Research Parts B and E*, and *European Journal of Operational Research*. Prof. Mantin is a board member of the *Journal of Air Transport Management* and the *European Aviation Conference*, among others, and he has been engaged in consulting on air-transport policies. He was a visiting scholar at multiple academic institutions and held the Jean-Jacques Laffont Digital Chair on Digital Economy (at the Toulouse School of Economics). Prior to joining the LCL, Prof. Mantin was an Associate Professor with tenure at the University of Waterloo, Canada. He received his Ph.D. from the University of British Columbia, and M.Sc. as well as B.Sc. from Tel-Aviv University.

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All are welcome!