Finance and Policy FIN

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Papers & Analysis

The single session with three papers constituted the entire Finance and Policy Track. The papers were fairly diverse in the problems addressed and the analytic techniques used.

The first, paper 86, Market Mechanism to Assign Air Traffic Flow Management Slots, presented by Andrea Ranieri, University of Trieste, dealt with a policy issue in that it suggested the introduction of the use of market mechanisms in air traffic flow management. At the same time, the method proposed could be viewed as a flow management technique and the analysis provided insights into the potential improvement in air traffic operations.

The second was paper 82, Longitudinal Study of New York Airports Prices, Delays, Cancellations, Markets Served and Aircraft Gauge, presented by John Ferguson, George Mason University. It analyzed a range of performance indicators including their changes over time for the NY area airports. It then sought to relate performance changes to airport policies. The analysis gave insights into the impact of fuel price changes, slot controls and other issues on airline scheduling behavior and also on delays and other performance indicators.

The third paper 155, Assessing the Role of Operating, Passenger, and Infrastructure Costs in Fleet Planning under Fuel Price Uncertainty, presented by Megan Smirti, University of California, Berkeley, examined the relative cost effectiveness of three different aircraft types. Using a variety of breakeven curves it showed the sensitivity of the best aircraft choice to changes in stage length, fuel prices and also ATM fees (and fee structure).

General Aspects

A reading of the papers and also the discussion during the meeting indicated that the first two papers represented initial steps in a full solution to the problems addressed. In both cases further research is certainly warranted to develop a complete and practical solution (in the case of the first paper) and to draw strong conclusions between airport policies and airline behavior and system performance (in the case of the second paper). The results of the third paper could be viewed as more conclusive, although extending the work to more aircraft types and more cost factors certainly would be worthwhile.

The first paper was a European paper and the second and third were US. The papers employed a broad range of analytic techniques: the first involved the mathematical analysis of algorithms and models, the second statistics and data analysis and the third tradeoff and sensitivity analysis. All generated lively discussions – there were approximately 50 people in attendance.

Recommendations

It is probably safe to say that these papers are only marginally relevant to NEXTGEN and SESAR. At the same there are certainly many policy questions of importance to NEXTGEN and SESAR. Thus, it would certainly desirable to have more (and more relevant) policy papers in future seminars. Important topics include fee structures and charging policies, the use of market mechanisms to influence user behavior, resource allocation polices (e.g. how to prioritize access to various system resources) and the relationship between access policies and system behavior.

Generally speaking I found the quality of the papers at the seminar to be quite high and also the relevance of the topics covered. I feel the current format (45 minutes for presentation and discussion) is good. I do think it would be worthwhile to increase the participation from the airline community.