Impacts of Airports on Airline Competition

Focus on Airport Performance and Airport-Airline Vertical Relationship

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Background

• Privatization, commercialization and deregulation of airports – incentives for airport to compete and maximize profits.

• **Increasing importance of airport concession revenue** – affects performance of different airport regulations, and leads to evolving vertical relationships.

• As competition in the airline market intensifies, airport-airline relationship becomes increasingly important

• **Objective:** to study impacts of airports on airline competition – focus on airport performance and airline-airport vertical relations
Key Findings:

• **Commercial revenue** are not only very important for airports’ performance, but also gives incentives for airports to cooperate with airlines, especially with dominant carrier.

• Airports have **substantial market power** mainly due to the **low price elasticity of demand** for their aeronautical services; even when multiple airports in a metropolitan regions have different owners.

• Although the **externality of aviation services** on commercial revenue and **competition in airline market** moderate airport’s market power, it does not eliminate the need for airport regulation.

• **Single till regulation** is better since it recognize existence of the positive externality of aviation services on commercial revenue.
• There are private benefits to an airport and the dominant airline to forge vertical cooperation. However, airport-airline cooperation has both positive and negative effects to society: it can harm competition in airline market while enhancing airport’s performance.

• On the other hand, airport-airline cooperation may improve network competition for connecting traffic as different airport-airline combinations compete more vigorously for a same hinterland traffic.

• Cooperation or competition among multiple airports in a congested metropolitan region is a complex issue needing further study: system efficiency vs. market power.
Outline

• Airport revenue structure, regulation and pricing

• Airport’s market power

• Effects of airport – airline vertical relationship

• Summary and Conclusion
Percentage of Non-aeronautical Revenue 2006

% Non-aeronautical Revenue 2006

North America

Europe

Asia Pacific

0%

10%

20%

30%

40%

50%

60%

70%

80%

90%
Effects of non-aeronautical revenue

- Economies of scope in producing aeronautical and non-aeronautical services.
- Positive externality of aviation services on commercial services – reduce airport’s incentive to increase aeronautical charges.
- Effects on regulation:
  - Dual till: difficulties in allocating costs, and failure to internalize externality.
  - Single till: superior in setting the right price (with congestion pricing). Under-investment an inherent problem.
  - Light-handed regulation: not sufficient especially when absent airport competition.
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Source of Airport Market Power on aeronautical services:

- **Lumpy capacity investment** – congestion buildup over investment cycle
- **Airline market structure:** eg. LAX vs. Atlanta
- **Types of airlines serving:** eg. airports serving low cost carriers
- Share of connecting passenger
- Inter-modal competition with HSR
- Competition among airports
Effects of Airport Competition

• Airport market power: very low price elasticity for aviation services.

• Competition among airports – airport specific price elasticity (even in absence of capacity problem)
  \[ \varepsilon_i = \frac{\varepsilon}{S_i(1 + v_i)} \]

• For most reasonable values of conduct parameters; individual airports face extremely low price elasticity; worse when collusive behavior is allowed in a region: BAA’s common ownership
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Incentives for Vertical Cooperation

• Existence of dominant carrier’s hub premium: conservative values 2%-20%
• Strong Incentive for an airline to increase dominance at its hub airport, rather than co-locating its hub with another carrier
• Airports under competitive region or metropolitan area have incentive to align with ONE dominant partner carrier
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Forms of Vertical Relations

• **Signatory airline** of an airport: airlines share airport costs by bearing residual costs, or to provide service guarantee

• **Airport revenue bond**: airlines bear project risks in exchange for exclusive usage of key facilities.

• Airline own or long term lease contracts on key facilities (eg. terminals)

• Offer favorable terms for usage
Positive Effects

• Reduce risk and uncertainty for airports, ease of funding for capacity investments.
• Provide incentives for airlines to make sunk investments and long term commitment to the airport
• Airport-airline together competes with other airport-airline competitors for overlapping markets
Negative Effects

• **Entry barriers** to potential competitors (Winston and Morrison 2000, Dresner et al 2002).

• **Hub premium can harm consumers**; DOT (2001)

• EU decision to disallow Charleroi airport’s subsidy to Ryanair.
New forms of airline-airport relation: Revenue Sharing (RS)

- Airport share revenues with airlines (Tampa); Airlines require sharing revenue as a condition to initiate services (Ryanair)
- Demand complementarity between aviation service and concession revenue
Fu and Zhang (2008)

- **Welfare Gain** as RS allows airlines and airports to internalize the positive externality;
- Airports have strategic interests to influence airline competition – to be a king-maker.
- **May be bad for airline competition:** strengthens this dominant airline’s market power.
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Thank you for listening.