

Economic Regulation and Capital Financing

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- ❑ Objective: Review alternative international approaches to airport economic regulation and methods for financing capital projects
- ❑ Topics:
 - Generic approaches to airport economic regulation
 - The single-till vs. dual-till approach
 - Capping of increases of aeronautical charges
 - Residual vs. compensatory approach
 - Alternatives for financing capital expenditures
 - Depreciation of capital assets

Reference: Chapter 7 in de Neufville and Odoni

Economic Regulation of Airports

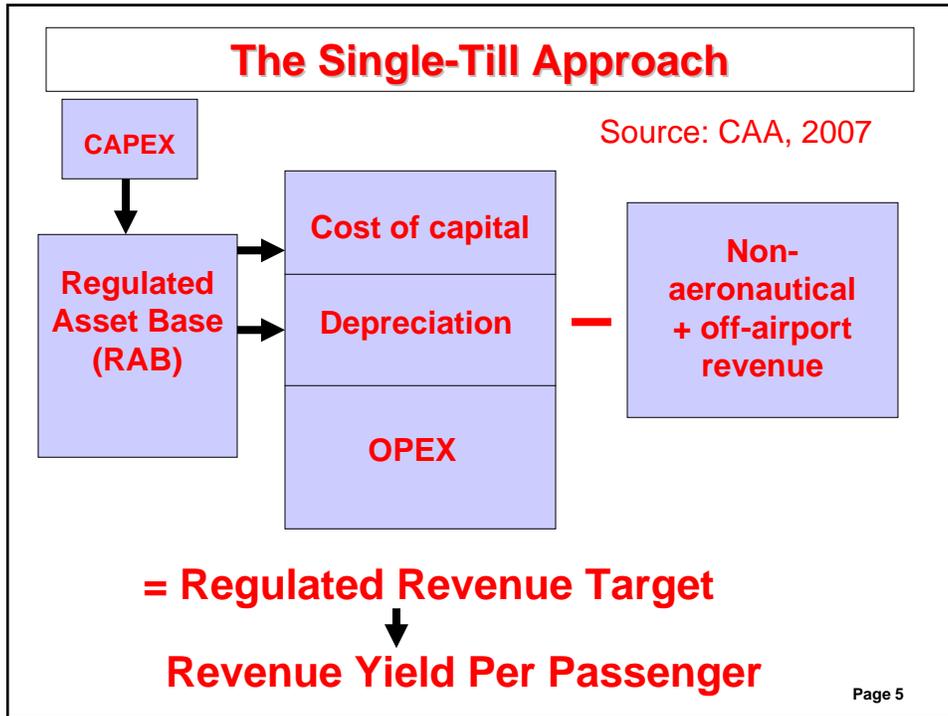
- ❑ Airports, with a few exceptions, are natural monopolies for O/D traffic
- ❑ Widespread concern about potential abuses in pricing airport facilities and services
- ❑ Increasingly sophisticated regulation (UK in lead): price caps tied to inflation rates and/or traffic growth
- ❑ Fundamental issue: aeronautical vs. non-aeronautical charges
- ❑ “Single-till” vs. “dual-till” controversy (or airport vs. airline)
- ❑ US: compensatory vs. residual system analogy -- with a major difference

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Regulatory Price Controls at Privatized Airports

- ❑ BAA pricing policies regulated by the Civil Aviation Authority (CAA) and the Competition Commission (CC):
 - “RPI - x” formula: annual rate of aeronautical charges increase is determined through $(RPI - x)\%$ formula [RPI = retail price index]
 - Intent: airport financial performance must rely on productivity gains, not price increases
 - Single till
 - 5-year review
- ❑ Vienna:
 - “RPI-x” formula; x depends on anticipated rate of traffic growth; the higher traffic growth, the higher x
 - Dual till; 5-year review
- ❑ Athens: Simple cap on rate of annual increases; Dual till
- ❑ India (proposed): Hybrid till (30% of non-aeronautical revenues contributed to aeronautical till)
- ❑ Mexico (AZUL group of airports): dual till; 5-year review

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The “RPI – x” Formula: Values of “x”

| | Heathrow | Gatwick |
|------------------|---------------|--------------|
| 1998-2003 | 3% | 1% |
| 2003-08 | -6.5% | 0% |
| 2008-09* | -15.6% | -8.2% |
| 2009-13* | -7.5% | -2% |

- CAPEX Heathrow: £5.4 billion, 2003-08; £3.6 billion, 2008-13
- CAPEX Gatwick: £0.5 billion, 2003-08; £0.8 billion, 2008-13
- Maximum aeronautical charges: £9.28 per pax in 2007, £15.9 in 2012 at LHR; £4.91 and £6.57 at LGW

*** Accompanied by threat of large penalties if LOS does not improve**

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Landing Fees, BAA: Among Lowest in Europe

| Aircraft weight (tons) | Heathrow | | Gatwick | | Stansted | |
|------------------------|----------|----------|---------|----------|----------|----------|
| | Peak | Off-peak | Peak | Off-peak | Peak | Off-peak |
| MTOW ≤ 16 | £ 590 | £ 250 | £ 385 | £ 110 | £ 95 | £ 85 |
| 16 < MTOW ≤ 50 | £ 590 | £ 250 | £ 385 | £ 110 | £ 142 | £ 105 |
| 50 < MTOW | £ 590 | £ 425 | £ 385 | £ 125 | £ 231 | £ 131 |
| For MTOW > 250 | £ 590 | £ 425 | £ 385 | £ 125 | £ 400 | £ 400 |

Apply to domestic and international flights

Note: "Peak" varies by airport (e.g., Heathrow peak: 07:00-9:59 and 17:00-18:59 GMT, April 1-Oct. 31)

CAA regulatory approach is increasingly being challenged

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Position of Airlines re. Airport Regulation

- ❑ IATA – International Air Transport Association
- ❑ Vocal in resisting aeronautical charge increases
- ❑ Public positions ("Economic Regulation: The case for independent economic regulation of airports and air navigation service providers", Feb 2007) advocating the following:
 - Tight, price-cap regulation
 - Single till ("air carriers bring in most non-aero revenues through their passengers")
 - Compulsory consultation with carriers on investments and prices
 - Greater transparency in financial accounting
 - No cross-subsidization between airports belonging to the same company *[but wants cross-subsidization between aero and non-aero revenues]*

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Positions of Airports re. Airport Regulation

- ACI – Airports Council International:
 - **Light-handed regulation** works better: intervene only when suspect abusive (monopolistic) behavior
 - Dual till (airports make non-aero revenues possible; need profits to support capacity expansion)
 - Airport user charges have been small part (“near 4%”) of airlines’ operating expenses for 25 years [?]
 - Airports are not natural monopolies (competition between hubs; subject to economic pressures, e.g., SARS) [?]
 - Consultations and negotiations with local carriers (not with IATA) as knowledge of local factors is crucial

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Other Regulatory Approaches

- Australia: Light-handed regulation, governed by the Australian Competition and Consumer Commission (ACCC):
 - 1997 to 2002, seven biggest Australian airports: dual till; RPI-X; abolished in 2002:
 - “Aero and non-aero revenues are complementary; commercial pressures discourage airports from raising aero charges as this may bring down demand for non-aero revenues as well”
 - “Probationary light handed regulation”
- New Zealand: No active regulator. Commerce Ministry can ask for a ad-hoc prices review by Competition Commission
 - Airline carriers highly critical of Auckland airport
 - Earned 60% profit after taxes in FY’07; abuse of market power?
 - July 2007: Landing charge increases heavily criticized by Air NZ/IATA – called for reviews

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Proposed EU-Wide Regulation

- ❑ Currently numerous regulatory regimes, even within individual countries (e.g. Hamburg has price cap, Düsseldorf has rate of return target, Frankfurt has light-handed oversight)
- ❑ Draft Regulation (1/07) of EU Commission seeks to unify regulatory principles:
 - All airports with passenger traffic exceeding one million will be covered by Regulation
 - Independent regulatory authority in each EU Member State
 - Airports should consult with users on amending charges, new investments, service level standards
 - Appellate tribunal can arbitrate disputes
 - Airports and users to share with each other financial data, projections etc., as necessary
 - Charges can be differentiated according to quality and service scope
- ❑ Long way until final approval

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Airport Regulation in the United States

- ❑ Publicly-owned airports – local and/or state government
- ❑ Largely contractually-determined, self-policing regulatory system, in a mature market: airports typically have long-term binding agreements with several airlines, which lease or co-own airport assets
- ❑ Aeronautical charges must be cost-related (essentially a cost-plus system loosely overseen by local authorities)
- ❑ Asset stake of airlines in airport assets helps foster commercial agreements better.
- ❑ Federal government may intervene when a potential violation(s) of federal legislation is perceived
- ❑ Extensive and regular consultation with airlines re airport charges; majority-in-interest clauses in many cases

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Residual vs. Compensatory Approach

- ❑ Residual Cost Approach (ORD, DFW, CVG, MIA)
 - Airlines assume financial risk by agreeing to pay costs not allocated to other users or not covered by non-airline sources of revenue
 - Airlines are charged only for residual costs not covered by non-aeronautical sources → **Cost-plus, single-till system with a difference**
- ❑ Compensatory Approach (BOS, PANYNJ, LAX)
 - Airport operator assumes entire financial risk
 - Airlines pay aeronautical charges sufficient to recover actual costs → **Cost-plus, dual till**
- ❑ 134 busiest airports in US: 22% Residual, 28% Compensatory, 50% Hybrid; 43% have majority-in-interest clause.

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Financing Airport Capital Investments

- ❑ Outright Government Grants
- ❑ Special-Purpose Taxes
- ❑ Government or Development Bank Loans
- ❑ Self-generated Operating Surpluses
- ❑ Commercial Bank Loans
- ❑ Tax-exempt, General Obligation Bonds
- ❑ Tax-exempt Revenue Bonds
 - On earnings of whole airport authority
 - Against airline leases
 - Against revenues of single facility
- ❑ Private financing against specified rights to airport revenues

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Financing of New Athens International Airport (1996-2001)

| | | |
|---|------------------|-----|
| European Investment Bank | \$1,128 | 47% |
| Consortium of commercial banks | \$ 360 | 15% |
| Airport development fund (Greece) | \$ 288 | 12% |
| European Union grants | \$ 264 | 11% |
| Greek State grants | \$ 168 | 7% |
| Share capital (55% Greek State, 45% German group) | \$ 144 | 6% |
| Secondary debt (commercial rates) (taken on by shareholders) | \$ 48 | 2% |
| Total | \$ 2,400 million | |

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Historical-Cost vs. Current-Cost Accounting

- ❑ Due to inflation, the current cost of replacing airport facilities is generally much greater than the amount originally paid for them.
- ❑ Using a depreciation schedule based on *historical cost* (the amount originally paid for the facility) may lead to under-recovery of the cost of replacement.
- ❑ *Current-cost* accounting involves the periodic (usually annual) revaluation of remaining assets according to their replacement costs. In practice, the book value of remaining assets is often simply increased by the rate of inflation.

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Historical-cost vs. current-cost depreciation schedules

| Age of asset (yrs) | Historical-cost accounting | | Current-cost accounting* | |
|--------------------|----------------------------|-----------------------|--------------------------|-----------------------|
| | Remaining value of asset | Deprec'n for the year | Remaining value of asset | Deprec'n for the year |
| 0 | \$100 | \$0 | \$100 | \$0 |
| 1 | \$90 | \$10 | \$97.2 | \$10 |
| 2 | \$80 | \$10 | \$93.3 | \$10.8 |
| 3 | \$70 | \$10 | \$88.2 | \$11.7 |
| 4 | \$60 | \$10 | \$81.6 | \$12.6 |
| 5 | \$50 | \$10 | \$73.5 | \$13.6 |
| 6 | \$40 | \$10 | \$63.5 | \$14.7 |
| 7 | \$30 | \$10 | \$51.4 | \$15.9 |
| 8 | \$20 | \$10 | \$37.0 | \$17.1 |
| 9 | \$10 | \$10 | \$20.0 | \$18.5 |
| 10 | \$0 | \$10 | \$0 | \$20.0 |

* Revaluation of remaining value of asset by 8%/year at end of year

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Considerations When Comparing Airport Charges

- Direct or indirect government subsidies
 - direct grants; special- and general-fund taxes, etc.
- Coverage and quality of services offered
 - ATC services, comfort, delays, reliability, etc.
- Volume of traffic
 - some economies of scale (ex: handling services)
 - reduced average costs when marginal costs are small
- Characteristics of traffic
 - domestic vs. int'l, originating vs. transfer, etc.
- General cost environment
 - labor, construction, systems, technology costs
- Accounting practices
 - e.g., historical-cost vs. current-cost depreciation

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