Study of the economic market power on the relevant market(s) for aviation and aviation-related services on the Amsterdam airport Schiphol

Commissioned by the Netherlands Competition Authority (NMa)

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About GAP

- Joint Research Project of the Universities of Applied Sciences in Bad Honnef, Berlin and Bremen to investigate the Economic Performance of German Airports

- Topics:
  - Charges and Airport-Airline Relationship
  - Benchmarking and Partial Productivity
  - Finance
  - Ground Handling Services
  - Non-Aviation

- Funded by the Federal Ministry of Education and Research, since 2005

- Website: www.gap-projekt.de
Outline

• Study overview
• Services & stakeholders
• Definition of the relevant markets
• Competition analysis and market power assessment
• International comparison
• Conclusions
Study overview

Introduction/Study Overview
Chapter 1 & 2

Overview of aviation(-related) services and stakeholders
Chapter 3

Definition of relevant markets
Chapter 4

Competition analysis
Chapter 5

Market power assessment
Chapter 6 & 7

International Comparison
Chapter 8

Conclusions
Chapter 9

Objective

“Assess the economic market power of the airport operator on the relevant market(s) for aviation(-related) services at Amsterdam airport Schiphol.”
Outline

• Study overview

• Services & stakeholders
  • Definition of the relevant markets
  • Competition analysis and market power assessment
  • International comparison
  • Conclusions
## Services & stakeholders: Compilation airport services

<table>
<thead>
<tr>
<th>Air traffic operations</th>
<th>Ground handling services</th>
<th>Tenancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATO 1: Landing and take-off services</td>
<td>GHS 1: Ramp handling</td>
<td>TE 1: Rental to airlines</td>
</tr>
<tr>
<td>ATO 2: Aircraft parking</td>
<td>GHS 2: Aircraft services</td>
<td>TE 2: Rental to ground handling companies</td>
</tr>
<tr>
<td>ATO 3: Passenger basic terminal infrastructure and services (including security)</td>
<td>GHS 3: Passenger handling</td>
<td>TE 3: Rental to the government</td>
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<tr>
<td></td>
<td>GHS 4: Baggage handling</td>
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<td></td>
<td>GHS 5: Freight and mail handling</td>
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<td></td>
<td>GHS 6: Aircraft maintenance</td>
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<td></td>
<td>GHS 7: Surface transport</td>
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<td></td>
<td>GHS 8: Ground administration and supervision</td>
<td></td>
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<tr>
<td></td>
<td>GHS 9: Flight operations and crew administration</td>
<td></td>
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<tr>
<td></td>
<td>GHS 10: Fuel and oil handling</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GHS 11: Catering services</td>
<td></td>
</tr>
</tbody>
</table>
## Services & stakeholders: Classification airport services

<table>
<thead>
<tr>
<th>Services &amp; stakeholders</th>
<th>Service is indispensable at an airport (bound to the airport)</th>
<th>Service is bound to the airport but dispensable (opting out)</th>
<th>Service might also be purchased at other airports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure or service with a single supplier</td>
<td>ATO 1, ATO 3, TE1, TE2, TE3</td>
<td>ATO 2, (ATO 3) (TE1), (TE2), (TE3)</td>
<td></td>
</tr>
<tr>
<td>Service with multiple suppliers, dependent on bottleneck infrastructure</td>
<td>GHS 4, GHS 10</td>
<td></td>
<td>(GHS 10)</td>
</tr>
<tr>
<td>Service with multiple suppliers, independent of bottleneck infrastructure</td>
<td>GHS 1-3, GHS 5-9, GHS 11</td>
<td>(GHS 11)</td>
<td>(GHS 6), (GHS 11)</td>
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- International comparison
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Market definition: Concepts & Tools

- **Market definition** is a tool to identify which products/services and firms put a competitive pressure on a company.

- Are customers are able to switch demand in case of a price increase (*demand-side substitution*)?
  - If “Yes”: Different types of services belong to the same market
  - If “No”: Different types of services form separate markets, unless there is *supply-side substitution*.

- Market definition contains:
  - The definition with respect to **services** (the services regarded as substitutes by the consumers)
  - The definition with respect to **geography** (the area of supply and demand of these services)
Market definition: Results

- Two broad categories of markets:
  
  1. Market for the provision of infrastructure to airlines
  
  2. Market for the access to infrastructure for groundhandlers & others

- Further subdivision of each category in several markets
- Different geographic markets
- Analysis and outcome in line with European case law, e.g. KLM / Martinair merger and Berlin Flughafen / merger
## Market definition: Category 1

### Market for the provision of infrastructure ...

<table>
<thead>
<tr>
<th>...to airlines serving O&amp;D passengers</th>
<th>...to airlines serving transfer passengers</th>
<th>...for local and instruction flights</th>
<th>...to airlines offering cargo transportation</th>
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</table>

- The airport charges different prices for these different services
- Airlines cannot easily switch between offering these types of services (demand-side substitution)
- Downstream markets differ:
  - Introduction of "Air Passenger Tax", 1 July 2008
  - Demand elasticities in downstream markets differ
- Different catchment areas = geographic market definition
- Further subdivision not useful
## Market definition: Category 2

### 2. Market for the access to infrastructure for companies offering ...

<table>
<thead>
<tr>
<th>Service Type</th>
<th>GHS Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>...passenger handling services</td>
<td>GHS 1</td>
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<tr>
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<td>Aircraft maintenance</td>
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<tr>
<td>...catering services</td>
<td>GHS 7</td>
<td>Surface transport</td>
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<td></td>
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<td></td>
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<td></td>
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<td>Rental to government</td>
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**Note:**
- Market definition: Category 2
- GHS codes and services are detailed.
## Market definition: Category 2

### 2. Market for the access to infrastructure for companies offering ...

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- Services are usually offered in bundles
- This definition follows the commonly used clustering into fives groups
- Geographic market is defined by the area of the airport and may also include nearby locations
- Further subdivision not useful
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• International comparison
• Conclusions
Market power is the absence or limited amount of competitive constraints which a firm faces, or (more technically) Market power is the ability to price above marginal costs.

Aspects:
- Many firms have market power to a certain extent, so the relevant question is “how much” market power does a firm have
- Relevant question: is the company able to increase its prices without having to fear that it looses a substantial part of its customers? (SSNIP test)

Assessment:
1. Definition of the relevant markets
2. Assessment of market power:
   - explore competitive situation
   - apply SSNIP-test concept
Competition analysis and market power assessment

**Category 1**

1. Market for the provision of infrastructure to airlines

- Catchment areas and demand for airport’s infrastructure are clearly different for:
  - O&D passengers
  - Transfer passengers
  - Cargo flights

→ Therefore separate analysis for these three main markets

- Method:
  - Explore competitive situation: consider link from retail (customers downstream) to wholesale level (airlines upstream)
  - Apply concept of SSNIP-test
    = test if a hypothetical small but permanent relative price increase of 5-10% leads to substitution or drop in demand which makes the price increase unprofitable
Competition analysis and market power assessment

**Origin and Destination (O&D)**

- **Demand side analysis** of Schiphol catchment areas:
  - limited diffusion of Schiphol catchment area with nearby airports
  - Schiphol is still the dominant airport in the area
- **Supply side analysis** of flights offered at nearby airports (OAG data)
  - General trend increasing number of overlapping destinations …
  - … but in relative terms Schiphol routes overlap with major competitors remains rather constant (50% overlap)
- **Impact of High Speed Rail (HSR)**
  - HSR is likely to make rail travel more attractive
  - HSR will likely reduce Schiphol’s market power via more substitutability between airports/more alternatives for travelers
- A hypothetical [SSNIP-test](#) estimate based on price elasticities of demand and current airport charges shows that a price increase on the upstream market is profitable

**Schiphol has market power on the market for the provision of infrastructure to airlines serving O&D passengers**
Competition analysis and market power assessment

**O&D - Demand Side (catchment area overlap 2008)**

Airport’s market dominance depicted by colours

- As more red, as more AMS is dominant
- As more green as more the neighbouring competitors are dominant
- As more blue as more any other airport competes
Competition analysis and market power assessment

Transfer (hub competition)

- **Demand side analysis**: for transfer from Europe via AMS, FRA, CDG, LHR to/from: North America, South America, North Africa and Middle East.
  - Schiphol dominant position on some markets, competition intensity varies
- **Supply side analysis**: for guided reasonable connections offered via AMS, CDG, FRA, LHR (same airline/alliance) (OAG data)
  - On over 40% of airport-pair markets, Schiphol faces no effective competition
  - Markets on which Schiphol is the only hub are thin
  - In relative terms, competition between hubs changed slightly, despite rapid development of airline alliances
- A hypothetical **SSNIP-test** still shows that a price increase on the upstream market is profitable
  - However, there might be significant differences in the price elasticity of the individual underlying segments

⇒ **Schiphol has market power on the market for the provision of infrastructure to airlines serving transfer passengers**
Competition analysis and market power assessment

**Transfer (hub competition) – Demand side**

**Transfer Passenger Market Shares**

- **North America Transfer Passenger Shares from/to Europe**
  - LHR: 31%
  - AMS: 22%
  - CDG: 13%
  - FRA: 34%

- **South America Transfer Passenger Shares from/to Europe**
  - FRA: 20%
  - LHR: 7%
  - AMS: 35%
  - CDG: 38%

- **North Africa Transfer Passenger Shares from/to Europe**
  - LHR: 22%
  - AMS: 20%
  - CDG: 28%
  - FRA: 30%

- **Middle East Transfer Passenger Shares from/to Europe**
  - LHR: 31%
  - AMS: 17%
  - CDG: 11%
  - FRA: 41%
Cargo and Local/Instruction flight

• Cargo
  – Competition among the main EU cargo hub airports is intense
  – Schiphol is not the main airport in the area for provision of cargo flights, also because of large catchment area
  – But hypothetical SSNIP-test estimates show that a price increase on the upstream market might be profitable, as airport charges is a small share of the total cost

  ➔ Schiphol has market power on the market for the provision of infrastructure to airlines offering cargo transportation

• Local and instruction flights
  – The market is comparatively small in terms of revenue
  – Strong market position as neighboring airports, which might serve as substitutes, are owned by the Schiphol group

  ➔ Schiphol has market power on the market for the provision of infrastructure for local and instruction flights
2. Market for the access to infrastructure for groundhandlers & others

- **Method:**
  - Explore competitive situation:
    - geographic and vertical market assessment
    - special focus on barriers to service provisions and substitutability

- **Access for groundhandlers & others**
  - Except for fueling, access to the infrastructure is provided without an access charge and the associated barriers to entry are kept to a minimum
  - Most services are provided by multiple suppliers (including self handling) in the framework of a competitive market structure
  - Fuel and oil handling (which is dependent on a bottleneck infrastructure) and the supply of rental space are provided by a single supplier

➔ Schiphol has monopoly on the market for the access of infrastructure to groundhandlers and others
• **Tenancy / Rental facilities (TE1-3)**
  – Part of market category 1 & 2
  – All ground handling service providers, as well as airlines and the government, need some space or facilities at the airport
  – For many operational activities competition with off-site areas is very limited
  – Therefore, the airport might be considered to have a dominant position with respect to the rental of space

→ Schiphol has market power with respect to rental of operationally required spaces to airlines, groundhandlers and government
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International Comparison

• Assessment of market power is fundamental question, but often ignored as airports are traditionally seen as local or natural monopolies = focus on regulation

• Airports moved from homogeneous group of public utilities to heterogeneous group with differences in ownership structures, degrees of competition and regulatory systems.
  – driven by changes in the downstream market (airline industry)

• Only few academic studies on airport market power

• Airport industry characteristics and policies in different countries
  – lead to and partly explain differences in regulation and market power assessment
  – Need to be taken into account when comparing between countries
International Comparison

• **Australia**
  – No effective competition between airports, no intermodal competition
  – Market definitions to identify market power: for aircraft movement facilities,
    for passenger processing facilities and non-aeronautical services.
  – Generally highly inelastic demand and market power
  – Monitoring of airports works fairly well

• **United Kingdom**
  – Market definitions to identify market power: for aeronautical service and for
    commercial services.
  – CAA bases its decisions on SSNIP together with reasoning on
    substitutability, the Competition Commission (CC) uses different approach.
  – CAA and CC agree that Manchester faces competition, but disagree on
    EMP of Stansted.
  – Trend to competitive industry with price cap regulation for airports with
    market power
International Comparison (2)

• Continental Europe: Germany & France
  – Regulators have not conducted studies on market power
  – In Germany, airports of Berlin, Frankfurt, Hamburg, Munich and Stuttgart are thought to have market power, most others have not
  – Lack of independent regulator, conflict of interest regulator/owner
  – In France, airports are managed as public utilities
  – ADP partially privatized in 2006; general assessment of market power implemented
  – Overall, issue of relevant markets is not defined precisely

• United States
  – Airports are viewed as part of the general transport infrastructure
  – Market power is not an issue
  – Cost based regulation
  – Access problems
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Conclusions

Market power assessment requires relevant market definition:

• Two market categories defined, with underlying subdivision:

  1. Market for the provision of infrastructure to airlines

      - split in 4 markets for O&D, transfer, cargo and local/instruction
      - geography: different catchment areas

  2. Market for the access to infrastructure for groundhandlers & others

      - split in 5 markets for passenger handling, freight/mail handling, aircraft handling, catering, refueling
      - geography: airport area and nearby locations
Conclusions (3)

Competition analysis and SSNIP test point to market power:

1. Market for the provision of infrastructure to airlines
   - SSNIP tests profitable
   - market power on all 4 markets
   - level of market power varies

2. Market for the access to infrastructure for groundhandlers & others
   - monopoly on access
   - market power on all 5 markets

⇒ Despite increased competition still market power for airport operator of Schiphol on the defined relevant markets for aviation and aviation-related services
Thank you for your attention.

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Int. University of Applied Sciences Bad Honnef

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