



Introducing More Competition into ATM: Possible Institutional Designs – Qualitative assessment

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Founding Members





compair

Competition for Air Traffic Management



Outline



- Background
 - COMPAIR project
 - Goal of this work
- Four options
- Literature review
- Stakeholder input
- Qualitative assessment - conclusion



Background



COMPAIR – starting point

- Fragmented market
- Price regulation
- Network character ATM technologies
- Home-bias



- Problems of coordination
- Slow changes
- Inefficiencies
- Underinvestment

(confirmed in Support study for an ex post evaluation of the SES performance and charging schemes)

Different ways to increase overall efficiency of ATM

➡ Focus on **competition** as a trigger for change



Background



We had 4 ideas on how to do introduce more competition into ATM

- Yardstick competition and Governance
- Unbundling
- Tendering of licenses
- Flight centric, sector-less operations

-> fine-tune

-> **qualitative assessment**

- literature review (theoretical & applications)
- stakeholder input (and hence opinions)

= setting the scene for further work

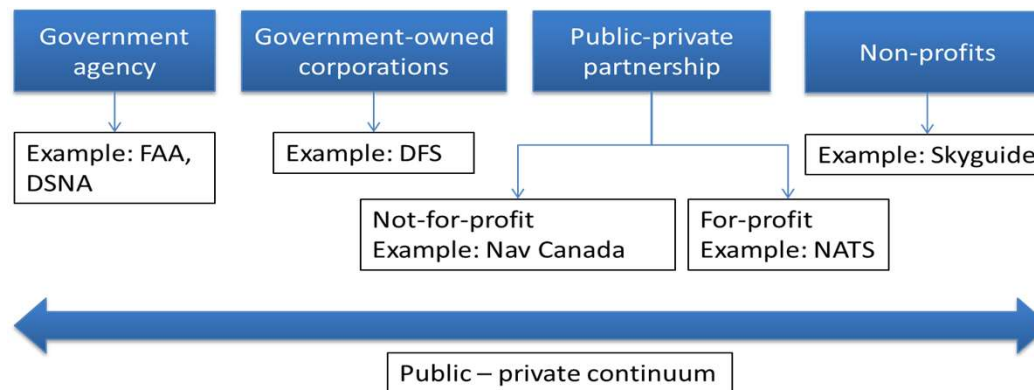
-> **quantitative** assessment



Four options

(1) Ownership models and yardstick competition

- Ownership and governance models
 - A large variety over countries
 - Increased involvement of ATM customers -> higher customer focus



- Yardstick competition
 - No effect on fragmentation
 - No real competition for ATM services
 - Charge depends on costs “similar” firms -> “as if competition”

Four options



(2) Unbundling

-> in phases

- Separation terminal air traffic services
- Unbundling of ATM support services which are not monopolistic in nature nor have large network effects (MET, AIS, CNS)
 - > competition **IN** market
- More specialised ATM activities, including contingency services
 - > closer cooperation -> increased interoperability

(3) Tendering of licenses

- Operate en-route air traffic services in a specific geographical area and for a certain time period
 - > competition **FOR** the market
 - > over time less fragmentation
 - > via contracts better enforcement of performance targets
 - > issue of long term investments...



Four options



(4) Sector less ATM operations

- Concept in R& D stage but some successful tests
 - En-route ATC without conventional sectors
 - One controller is assigned several aircrafts regardless of location
- Reduces need for monopolistic ATC
 - > competition between ANSPs
 - > competition for ODs, for network of airlines,...



Literature review



- (1) Ownership models and yardstick competition
 - Ownership model:
 - Literature mixed. Our estimates do suggest public-private does better than a state agency form or a governmental corporation (en route)
 - Yardstick competition:
 - In theory each firm chooses socially efficient cost reduction
 - Has been applied in regulation various utilities (hospital, water, busses, Japanese rail, airports*,...)
 - But generalisation to ATM with possible non-observable differences?
- (2) Unbundling
 - Tower control -> is seen as successful (but no public data)
 - Centralised services
 - Unbundling support -> some experience (eg. training, information)
 - Examples in rail and electricity -> you need enough competition
- (3) Tendering of ATC licenses
 - Careful with design
 - Two examples in ATC (centralised services & tower control)
 - Long term if long term investments (or other ownership arrangements)
- (4) Sector less ATM operations
 - Literature focusses on technical aspects



Stakeholder input



COMPAIR Advisory board + 6 interviews

Survey (21 replies: 15% ANSPs, 30% research & consultancy, 15% airports, 10% airlines, 10% industry associations, 20% regulatory/government)

Main comments

- Unbundling
 - Seen as most feasible option
 - For/in the market -> depends on service
 - Are there real cost savings? -> cost of coordination
- Tendering
 - Seen as political not feasible (at least for en route)
 - Special care on advised length (cf. investments)
- Governance/yardstick will not lead to drastic changes
- Sectorless too far-fetched – some reluctance to reply
- Consider distributional effects carefully
- All concepts should be technological feasible
- Political acceptability will be different for different countries -> no EU solution?
- Share of support services is around 20-40%, no agreement on most logical candidates
- Tendering is already possible ... at least in theory
- Some options do not directly affect fragmentation, which is a problem



Qualitative assessment

	Option 1: Perf. Reg.	Option 2: unbundling	Option 3: tendering*	Option 4: sector less
Technologically feasibility				
Is the technology there to realise it?	Green	Green	Green	Red
Time scale necessary for implementation	Green	Yellow	Orange	Red
Economic feasibility				
Possible cost reductions	Orange	Yellow	Green	Green
Cost of introduction	Green	Yellow	Yellow	Red
Effect on performance improvement incentives	Orange	Yellow	Green	Green
Potential negative side effects	Yellow	Green	Orange	Orange
Regulatory feasibility				
Easy implementation	Green	Yellow	Yellow	Red
Acceptability				
By nations	Green	Orange	Red	Yellow
By ATCO's	Green	Green	Red	Orange
By other ANSP personnel	Green	Orange	Red	Yellow
By airlines	Green	Green	Green	Green
Impacts				
Impact on capacity	Orange	Yellow	Orange	Green
Impact on safety	Green	Green	Green	Yellow
Impact on environment	Orange	Yellow	Orange	Green
Social welfare	Orange	Yellow	Yellow	Green
Distributional impacts	Orange	Orange	Orange	Green
Contribute to defragmentation/realisation of economies of scale	Red	Yellow	Yellow	Green

Conclusions



- No dramatic performance impact of performance regulation
 - But implementation might be feasible in the short run and at low costs
 - Sectorless operations might have strong impacts and cost savings
 - But faces many challenges
 - Unbundling is seen as the most promising
 - And has been relatively successful in other sectors
 - Tendering is already possible
 - But political and social barriers
 - And problem of need of collaboration versus competition
- > What happens next?
- 4 options are still in the picture
 - Modelling work to analyse potential
 - Estimated production and cost functions
 - Small economic model on ownership
 - Game theoretic model on unbundling (focus on tower control)
 - Network game on tendering
 - Agent-based model on tendering/sectorless operations





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Thank you very much for your attention!



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