



Slide 1: COMPAIR - Unbundling

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Slide 2: compair Competition for Air Traffic Management

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## Tower control market - outline



- Interesting case
  - Some countries experimented already with tendering
  - It matters as it represents close to 20% of ANSP costs (1,4 Billion Euro in 2009)
- Research questions
- Benefits of competition in tower control
- Current status and experience
- Conditions for a successful market opening
- Understanding institutions via a game tree
- Conclusions



## Research questions



- What was the experience in different countries up to now?
- What are the necessary conditions for a market in tower control services to develop?
- How do “institutions” influence the market outcome?
- Can we quantify the benefits of tower control liberalisation?



## 2 main benefits of market for tower control

- Cost reduction
  - Anecdotal evidence for Spain, Sweden ..that costs can be reduced strongly by using better organization, better technologies, lower pay for ATCO's...
- Transparency :
  - Many regional airports are heavily subsidized -one of the mechanisms is cross-subsidisation of tower control by other ANSP services
  - The best way to have transparent accounts is a bidding process.



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## Experience up to now

- Implementation Experience in UK, Spain , Germany, Sweden and Norway
- Refused implementation is also interesting but more difficult to study

UK	All airports open except Heathrow Incumbent = private company 3 out of 11 airports left incumbent Most airports renegotiated contract
Spain	Smaller airports open 12 towers operated by newcomers Still large inefficiencies in bigger airports
Germany	Regional airport towers opened to competition At least 14 towers left the incumbent
Sweden	Smaller airports liberalized At least 17 towers left the incumbent
Norway	Tender for second Oslo airport



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## UK experience is documented best



- UK has a competition tradition
- Civil Aviation Authority is responsible for cost-efficiency targets (EU-SES regulation for 7 largest airports) – that can be avoided if there is “enough” competition for tower services
- There was no legal monopoly for tower services but the incumbent did not like competitors
- Ownership of equipment (incumbent, airport) was not sufficient to block competition
- High share of ATCO’s with very generous terms (salary, pensions) was also not blocking the market opening – as they were employed by the newcomers at unchanged conditions, new ATCO’s had less beneficial conditions
- Almost all airports that did not organize a tender renegotiated their contract with the incumbent supplier and this may be as important as the tendering itself



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## What are conditions for a market to develop?

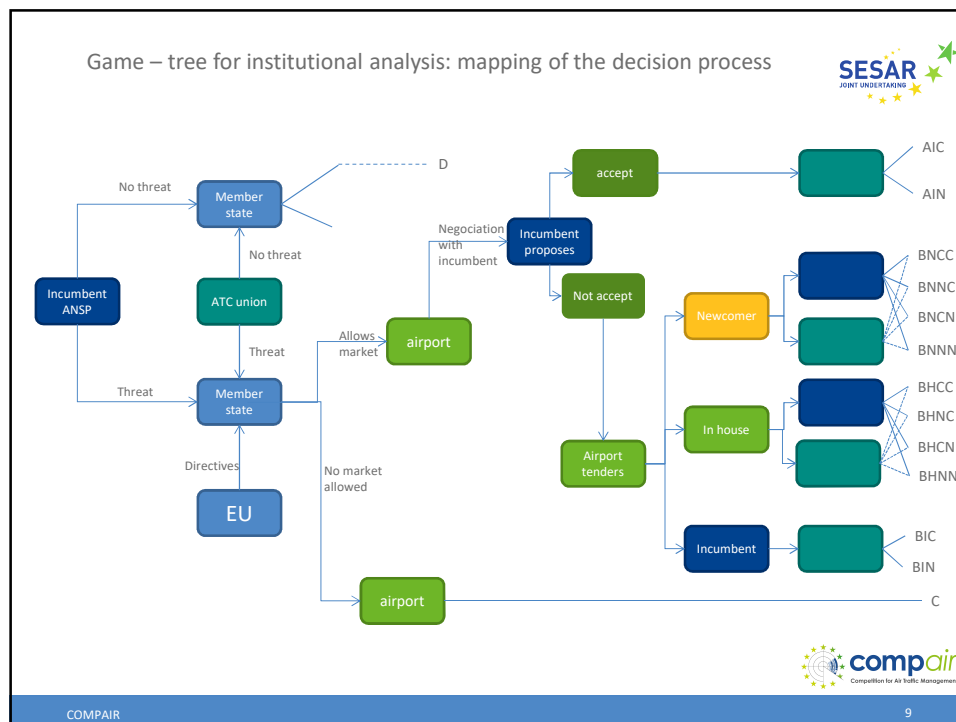


- Who pays for tower control and does cost control really matter for the airport?
  - Airports can be private, public or mixed
  - Evidence (Adler & Liebert, 2014) that private airports will always strive for lower costs and that also other airports strive for lower costs when airport encounters strong competition from other airports
- Is the bid taker likely to observe the procedure and select the lowest bid?
  - Legal battles by incumbent (in many sectors as it is important)
- Do all parties have the same information?
  - Winners’ curse probably not so important
- Are there important economics of scale involved?
  - For one tower: yes there are economics of scale
  - Combining several towers?
  - Vertical: what is role of coordination between tower and en-route control and between tower and internal airport operation?



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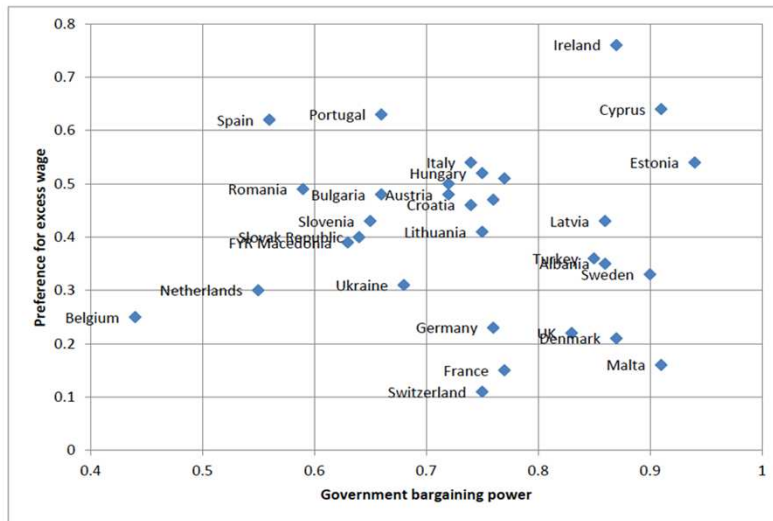
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## Elements of the game tree: Agents, their strategies and objective functions

- ATC union: defend privileges (cfr. ACCHANGE results)
- Incumbent ANSP: keep market
- Newcomer: obtain market
- Airport: reduce costs if private and facing competition
- Member state: depends on institutions (competition tradition?) and on power of unions
- EU: max welfare of all users

## Unions bargaining power and preferences (ACCHANGE project)



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## Solution of the game 1



Starting left side

Incumbent and ANSP will always lobby government

If member state decides not to open : game stops

If member state decides to open: airport can start by negotiating and if it does not obtain better conditions, it can open the market

So outcome can be

a) renegotiation (saving transaction costs – important for smaller airports)

Or b) tender, then newcomers and in-house enter the game

If newcomers and in-house risk to win the bid, there will be lobbying by incumbent and union



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## Solution of the game 2



### SOLUTION

If information on pay-offs (costs of different suppliers) is known by all players, the incumbent will be forced to bid the cost of the newcomer or in-house minus epsilon (Bertrand type of equilibrium).

– union will get its share for the existing ATCO's

If information on pay-offs (costs of different suppliers) is more uncertain, this will mainly benefit the incumbent and the union who have an information advantage and can use a smaller hedge on costs

If game is repeated over and over again, building a reputation counts as this allows to make more credible threats.

- Important for unions to be “tough” - For incumbent, this may be different as not cooperating with a newcomer (through its en route services) may end up in organizing competition for en-route services too.



## Conclusions



1. Competition for tower control only exists in a few countries – it can be organized in all member states – EU can help to make this mandatory, let the lowest cost firm get the market --- but experience in other sectors (electricity) shows this can take a long time.

When tower control was liberalized, there was important resistance of unions and incumbent and these parties have strong bargaining power in some countries. Here the EU can come in and guarantee a European Market.

Crucial in the process are the airports themselves, this is an opportunity for them to reduce ATC costs (if they have to pay them) but not all of them are interested in cost control

2. Other ANSP services (MET, CNS..) can also be outsourced, but this is different because it are no longer the airports who decide but the ANSP itself. The ANSP faces less competition than an airport and will be less motivated to introduce competition





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for your attention!

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Coffee



The only thing I  
know for sure  
about today is  
coffee. Everything  
else is just wild  
speculation.

Nancy Hoffman



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