

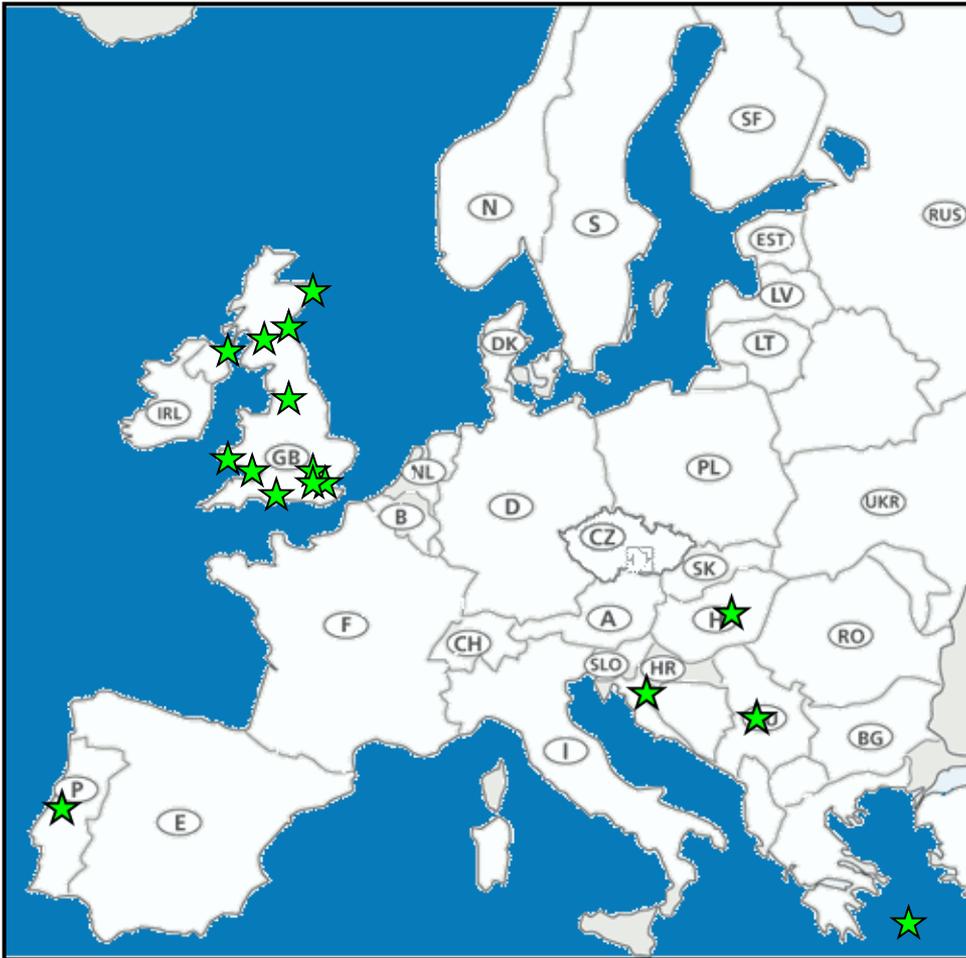
New Trends in European Airport Regulation – What can Australia learn?

Prof. Dr. Hans-Martin Niemeier*

2017 ACCC & AER regulatory conference, 27th & 28th July 2017, Brisbane.

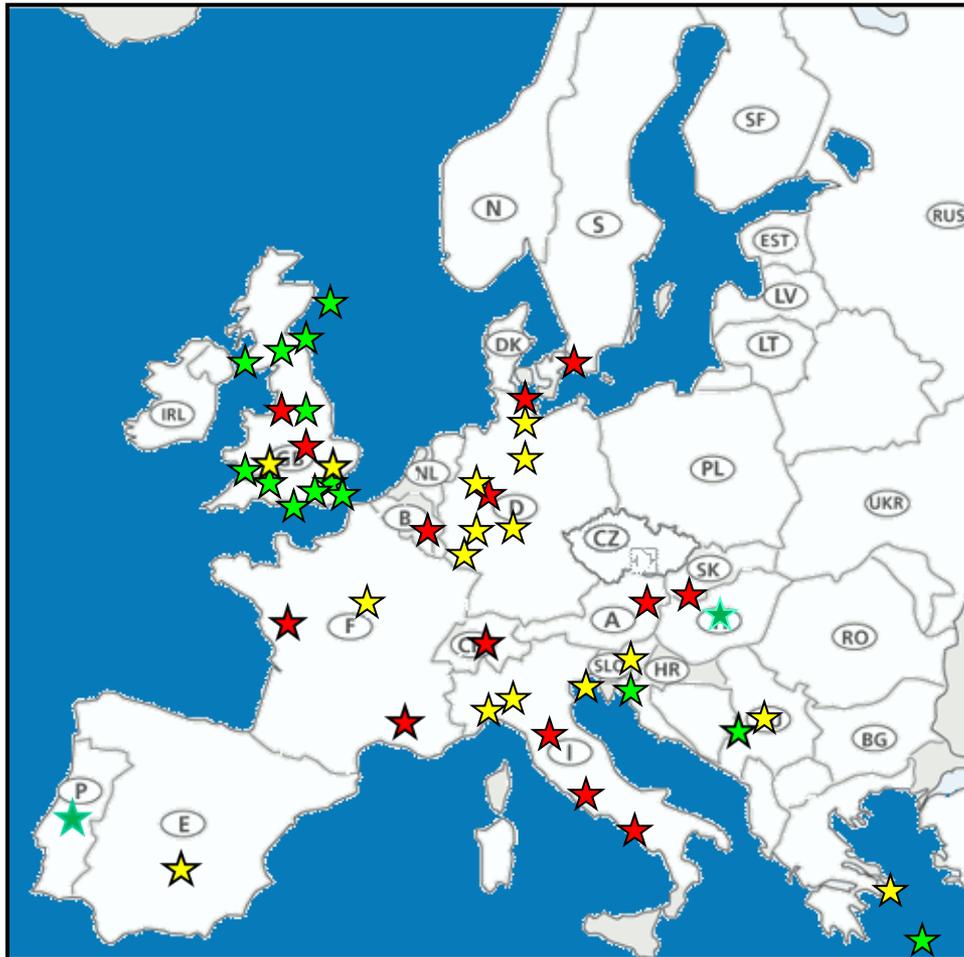
*** Many thanks to Prof. Peter Forsyth.**

Europe is different: Fully privatized airports in Europe in 2016



- ★ Fully privatized airports: UK plus
 - Larnaka
 - Budapest
 - ANA
 - Zagreb
 - Pristina

Europe is different: Fully and partially privatized airports in 2016



- ★ Fully privatized airports
- ★ Partially privatized airports with a majority share
- ★ Partially privatized airports with a minority share

•Malta International Airport has been partially privatized as well (Minority share privatization)

Issues

	Australia	Europe
Ownership	Private airports	Mostly state & partially privatized airports
Airport Competition	Local monopolies, but second Sydney Airport Do hubs compete?	Tough competition (ACI) versus natural monopolies (IATA).
Regulatory Institutions	Independent regulator	Independent regulator in seven countries.
Incentive Regulation	Light handed Regulation	Cost based regulation & heavy handed price caps
Capacity	Abundant capacity except Sydney and Brisbane	Excess demand and excess supply with white elephants
Performance	No vigorous benchmarking	No vigorous benchmarking

Issues

- Has competition between airports become so intense that regulation is not needed anymore?
- How to regulate (and plan) investments in airports?
- Have changes of policy (privatisation, incentive regulation) lead to better airports performs?

I. Airport competition

- 1. Are airports natural monopolies?**
- 2. How strong is airport competition?**

II. Investment and Regulation

- 1. Overview on European Airport regulation**
- 2. Slots, rents and investment incentives**
- 3. Investment regulation and planning**

III. Performance of Airports

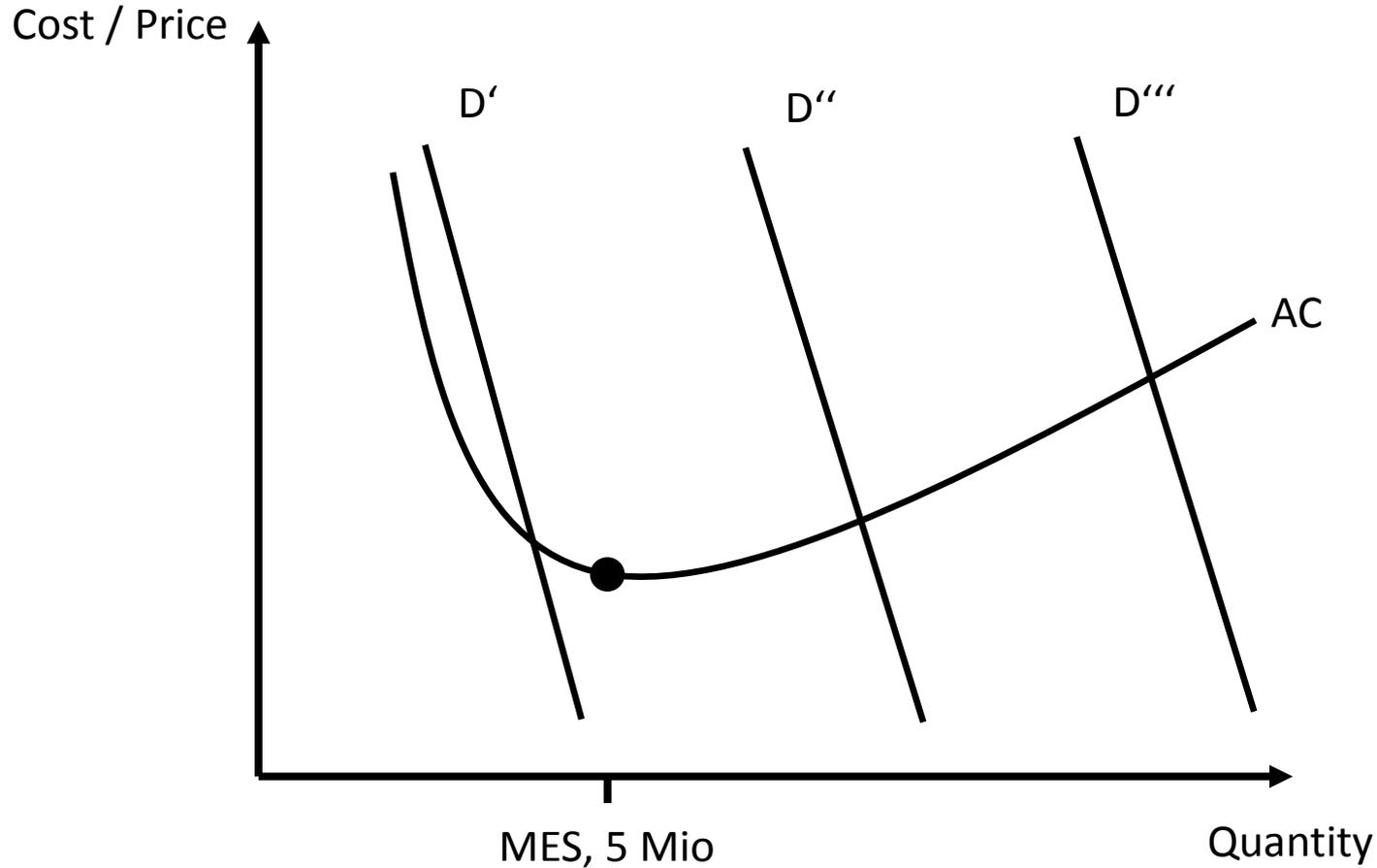
- 1. Have airports become more productive?**
- 2. Does incentive regulation work?**

IV. Conclusions: Issues for Australia.

I. Airport competition

- “Airports are exploiting, in many cases, their *natural monopoly* position” (IATA, 2007)
- Airports used to be considered as something akin to natural monopolies. But ... the result is a more competitive and dynamic airport market (Copenhagen Economics (CE), 2012, p. 12)
- How strong is airport competition?
- Discussion started with Starkie (1985 and 2002) and CE (2012) for ACI. Debate at European Aviation Conference 2013.
- Critical assessment

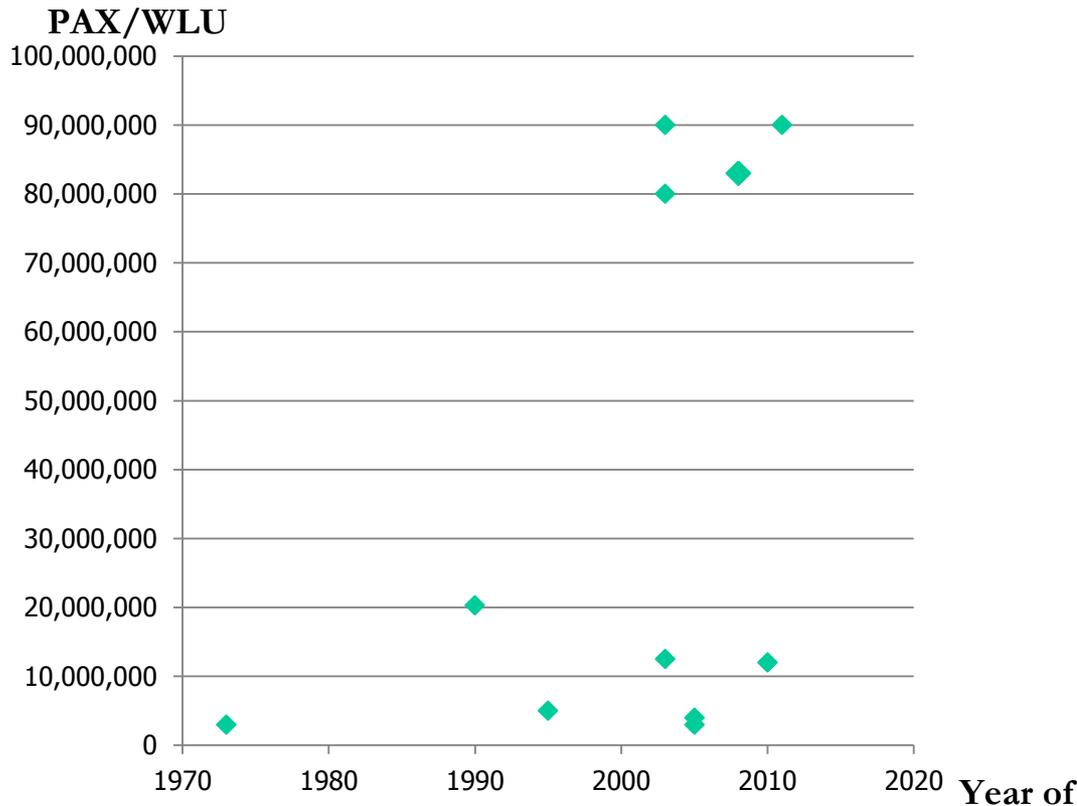
I.1. Natural monopolies?



MES = Minimum Efficient Scale

I.1. Natural monopolies?

Minimum Efficient Scale (MES)

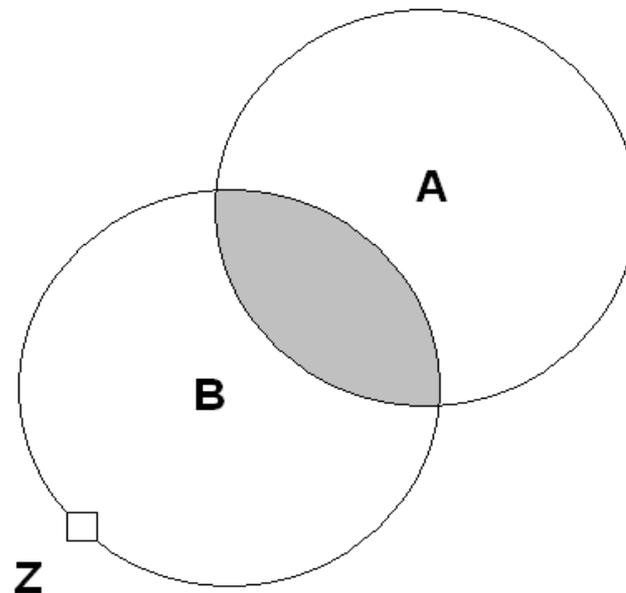


The relevance of natural monopoly characteristics has been underestimated and neglected by CE.

I.2. Strength of Airport Competition

- Starkie (2002) on overlapping catchment areas

Figure 1
Competition and Catchment Areas



I.2. Strength of Competition

- Intense competition even between the largest airports, “since airports are unable to price discriminate within the overlap area, the competition in the overlap (the 39.1%) is potent for the whole of the 100% as pointed out by Starkie (2002) (CE, 2012, p. 57)”
- Are the bold claims based on vigorous models?
- Price discrimination: Discounts for buses and car parking
- Product differentiation by Airlines: LCCT versus FSA
- Is it profit-maximizing to extend catchment areas so that they overlap?

I.2. Strength of Competition

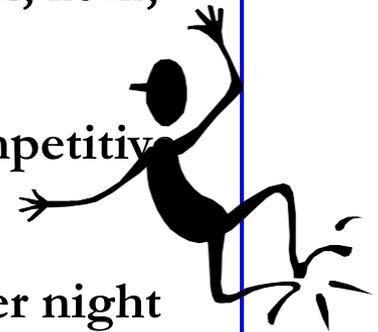
What strategies are we observing?

	CE (2012)	Assessment
Platforms	Locational rents prevents airports from abusing market power	Locational rents & cross price elasticity must be high.
Cost cutting	Privatisation & commercialisation reduce costs	Partial Privatisation increases costs
Pricing	50% of airports lowered charges in economic crisis. Route discounts	Yes, but no incentives for peak/congestion pricing.
Product differentiation	N/A	8 airports with LCC terminals
Entry & exit	Working	Not working

I.2. Strength of Competition

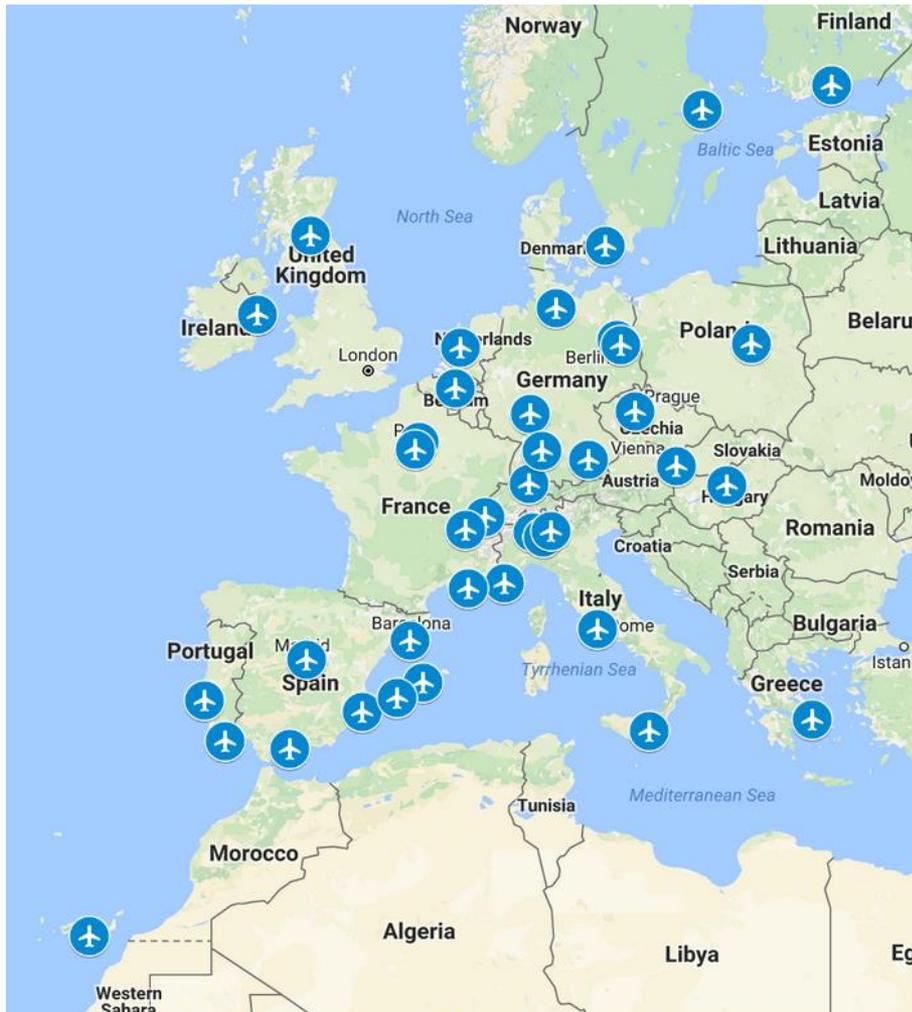
Barriers to entry

- “New airports have also entered the market. There were 81 more airports in Europe with commercial jet services in 2008 than in 1996. And, at others, there have also been significant increases in capacity. This is all evidence of airports both spurring competition and responding to it in a market where customers have choice.” CE, 2012, p.6)
- Great! Entry is working! We are heading for the long run competitive equilibrium!
- If airlines substitute jets for turbo prop, airports are built overnight and the iron forces of competition compete all profits away!
- Excess demand does not trigger entry. Entry in regions with excess supply (Mueller-Rostin C. et al., 2010).



I.2. Strength of Competition

- Large airports with persistent market power



Maertens (2012):

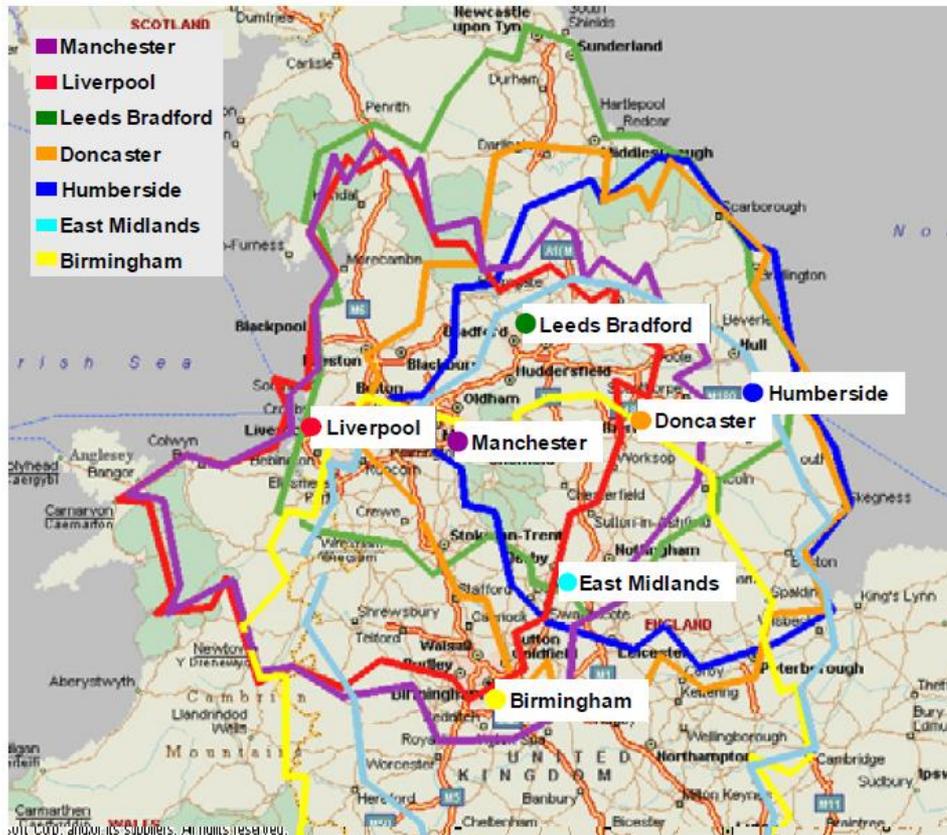
- Market power index of Malina (2010)
- Key element: Market share of airport in NATS 3 region within 100 km

I.2. Strength of Competition

- Which airports have substantial market power?
- 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 persistent market power of Stansted.
 - DOT de-designated only Manchester in Jan 2018.
 - Since March 2014 Stansted is de-designated.

I.2. Strength of Competition

- Has Manchester substantial market power? A two hour drive-time assessment



Source: CAA, 2007, p. 67

I.2. Airport competition? Summary

- **CE & ACI are painting a too optimistic picture about the strength of competition, because**
 - natural barriers to entry are important.
 - entry and exit mechanism are not working.
 - the role of overlapping catchment areas is overstated.
 - competition has not lead to full privatisation except UK.
 - competition has not eroded full cost pricing in a crisis
 - competition has not lead to demand orientated pricing
 - hubs have high market share in their O&D market, but low market shares in major intercontinental transfer markets
- **Scientific studies & studies for UK & Netherlands support the view that in most EU countries a number of airports have persistent market power.**

Agenda

I. Airport competition

1. Are airports natural monopolies?
2. How strong is airport competition?

II. Investment and Regulation

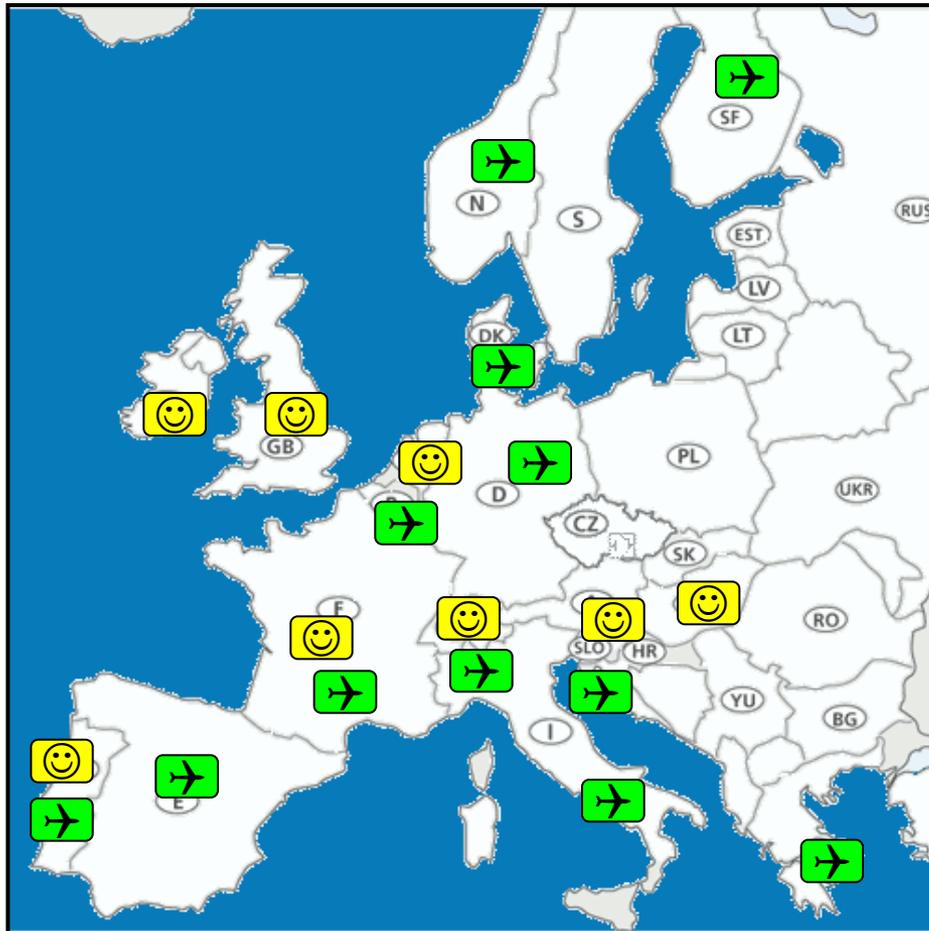
1. Overview on European Airport regulation
2. Slots, rents and investment incentives
3. Investment regulation and planning

III. Performance of Airports

1. Have airports become more productive?
2. Does incentive regulation work?

IV. Conclusions: Issues for Australia.

II.1. Regulation of European Airports in 2016



Independent regulator (all with user consultation)

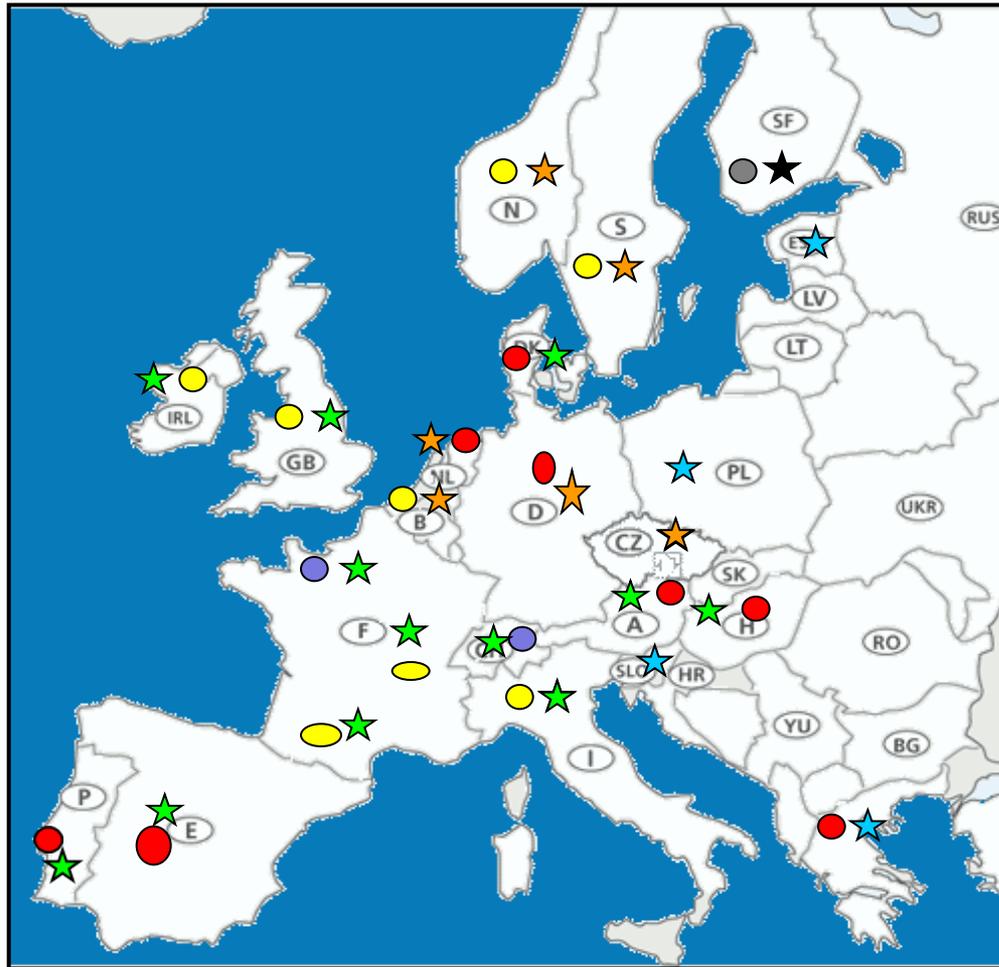


User consultation without independent regulator

- Improved consultation
- Independent regulator in
 - Hungary (2011)
 - Switzerland (2012)
 - Portugal (2015)
 - France (2016/7)
 - Italy ?
- Regulatory capture in Spain, Germany,...

* User consultation at Malta International Airport

II.1 Type of Regulation at European Airports in 2016



- ★ Type of price cap
- ★ Charges set by airport
- ★ Cost plus regulation
- ★ No regulation

Single or dual till system

- Single till
- Dual till
- Mixed till
- No till system

Incentive regulation in

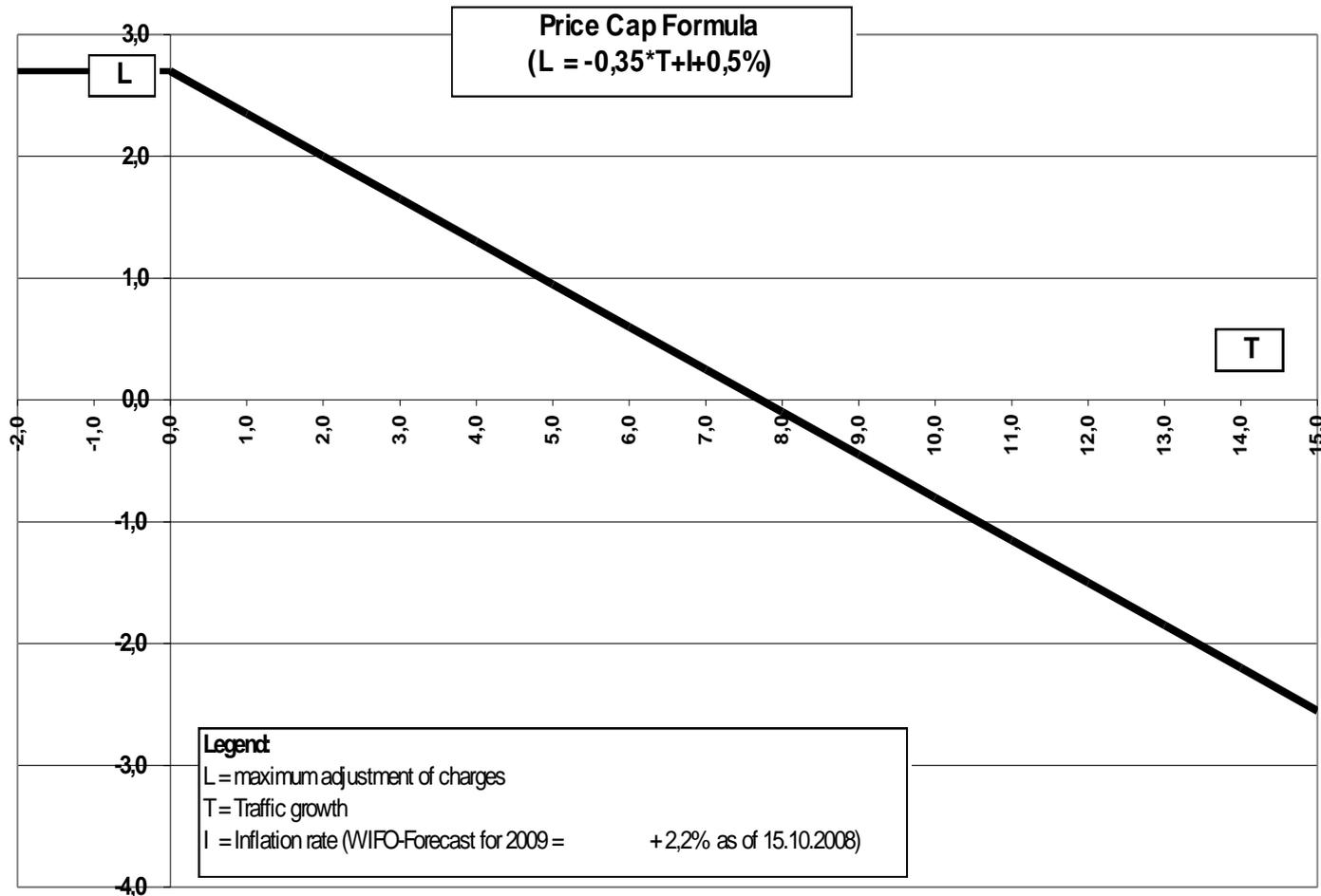
- France
 - Portugal,
 - Spain (?)
 - Switzerland (?)
- but cost plus in Germany

* Malta International Airport has a price cap and a dual till system in place.

II.2. Regulation of Airports

- **Slow trend towards independent regulator, but less so to an independent regulator reporting to parliament.**
- **Less cost plus but restoration in German and Switzerland**
- **LHR and arbitration does not work with dependent regulator (Germany, Switzerland) and cost based fall back option.**
- **Notable exception: Denmark arbitration with price cap**
- **No pure, but only hybrid price cap approaches**

II.1. Price caps with Traffic Risk Sharing

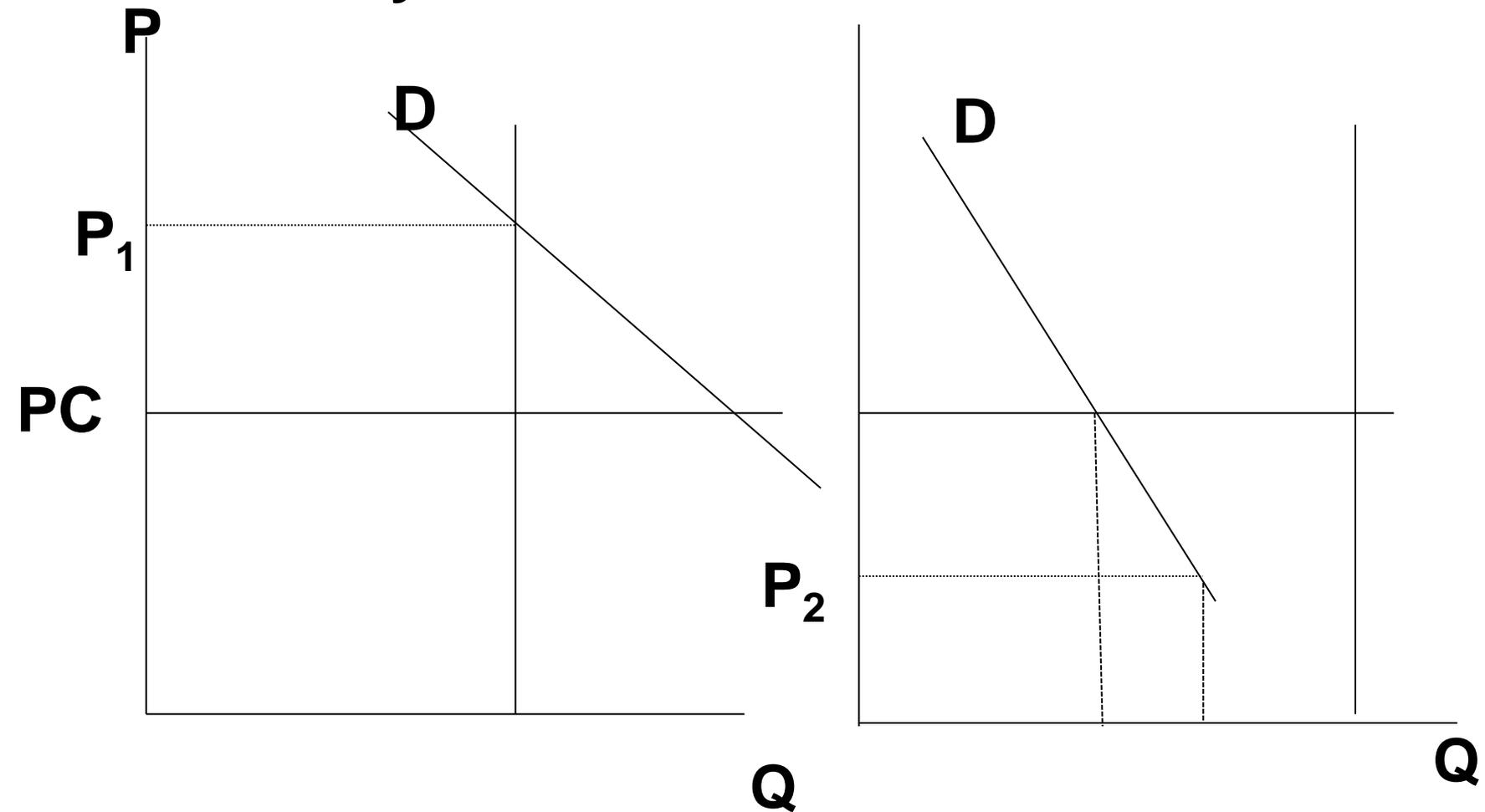


Vienna Airport: Similar at ADP

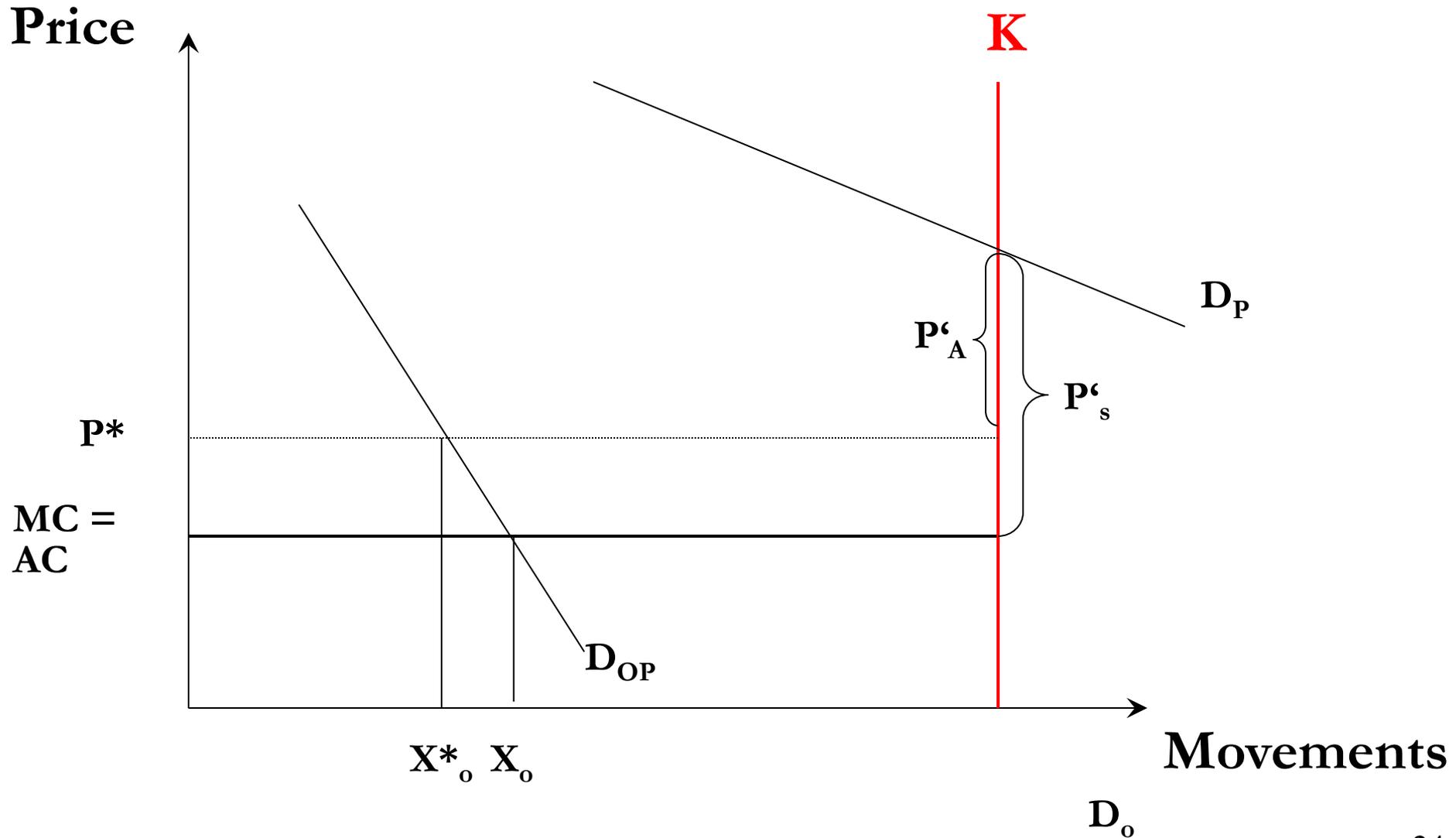
II.1. Regulation of ADP

Orly

CDG



III.2. Regulation: Slots and Rents



II.2. Regulation of Airports

	Excess Supply	Excess Demand	Investment
Price Level	Limited Welfare Loss	Does not matter Slots clears market	Slot rents signal investments
Price structure	Weight based close to Ramsey Pricing	Per movement charge Peak Pricing	Slot rents signal investments
Distribution	Cost pass through	Rents mainly to airlines	Loss of slot rents
Policy	Limited conflict	Rent seeking	Rent seeking
Price Caps	Incentives for cost efficiency	Pure price caps in theory, but not in practice.	Cost based and contracts
LHR	Incentives for cost efficiency	To be seen	To be seen

II.2. Slots & investment incentives

- Slot rationing systems make it in airlines' and airports' interest to oppose worthwhile investment. Investment lowers slot rents.
- Suppose that runway investment is welfare enhancing
- What is the airlines interest? No change- they are gaining the slot rents
- But what are the airport's incentives?
- Under Price cap if cap covers costs, investment is profitable
- Under LHR investment no agreement might be reached and rents are shared.
- “Under LH regulation, efficiency does not come about”

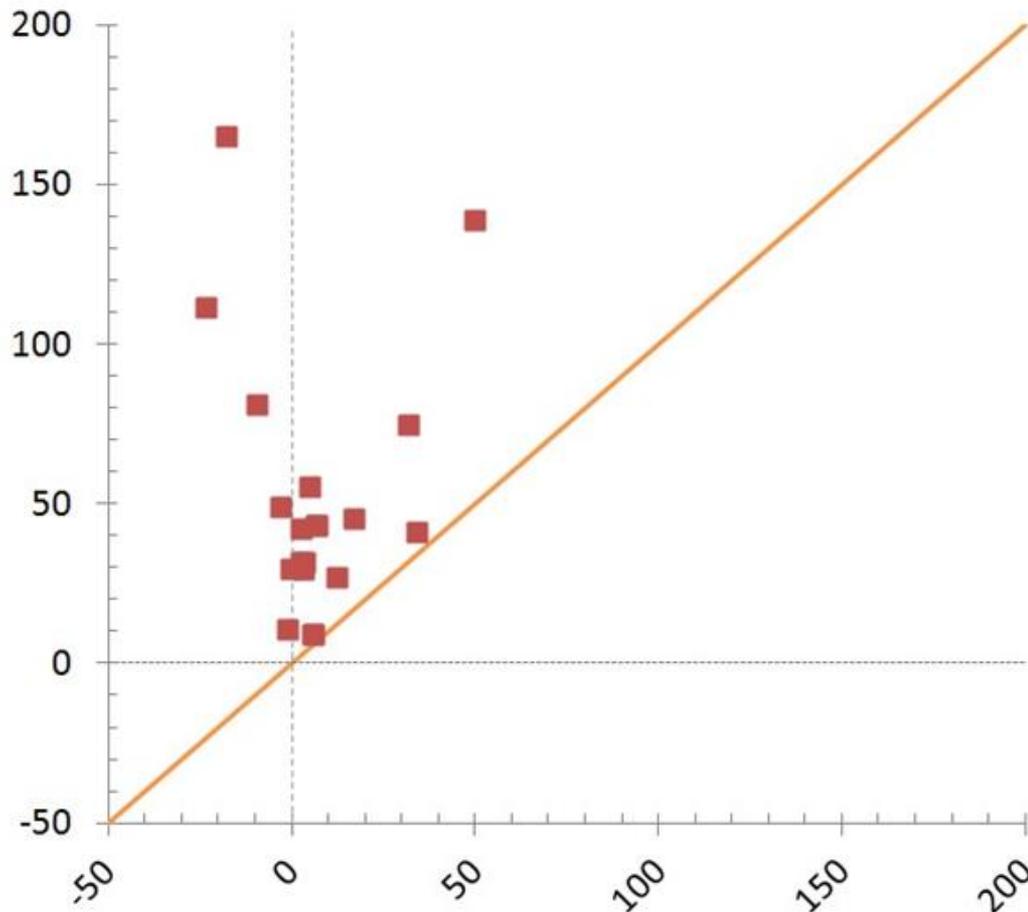
Forsyth (2011)

II.3. Investment regulation & planning

- Airport investment are part of public master planning.
- How are investments assessed?
- One would expect rationally by **Cost Benefit Analysis** and/or **CGE**, but in reality the ideology of airport as job engines dominates:
 - **Over optimistic forecasts**
 - **Economic Impact Analysis**
 - **Catalytic Effects**
- **Result: “Survival of the Unfittest” (Bent Flyvbjerg, 2009) and regulation becomes marginal.**

II.3. Investment regulation & planning

- **Forecasting: German airports**



Systematic over estimation of total movements

Prediction-Realisation-Diagram:

- Y- axis: forecasted relative change
- X- axis: actual relative change

II.3. Investment regulation & planning

- **Forecasting: White elephants**



Kassel Calden:

- Forecast: 320.000 PAX
- In 2015: 65.000 PAX
- 260 Mio € wasted



II.3. Investment regulation & planning

- **Forecasting: White elephants**



Aeropuerto Central Ciudad Real - Don Quijote

- **Open: 2008**
- **Forecast: 2,5 Mio PAX in 2011**
- **2011: 100000 PAX**
- **Closed: April 2012**
- **Auction (2015): Tzaneen International 10.000€**
- **Waste 1 Billion €**

- **Forecasts should be made by independent organizations and be peer reviewed.**

II.3. Investment regulation & planning

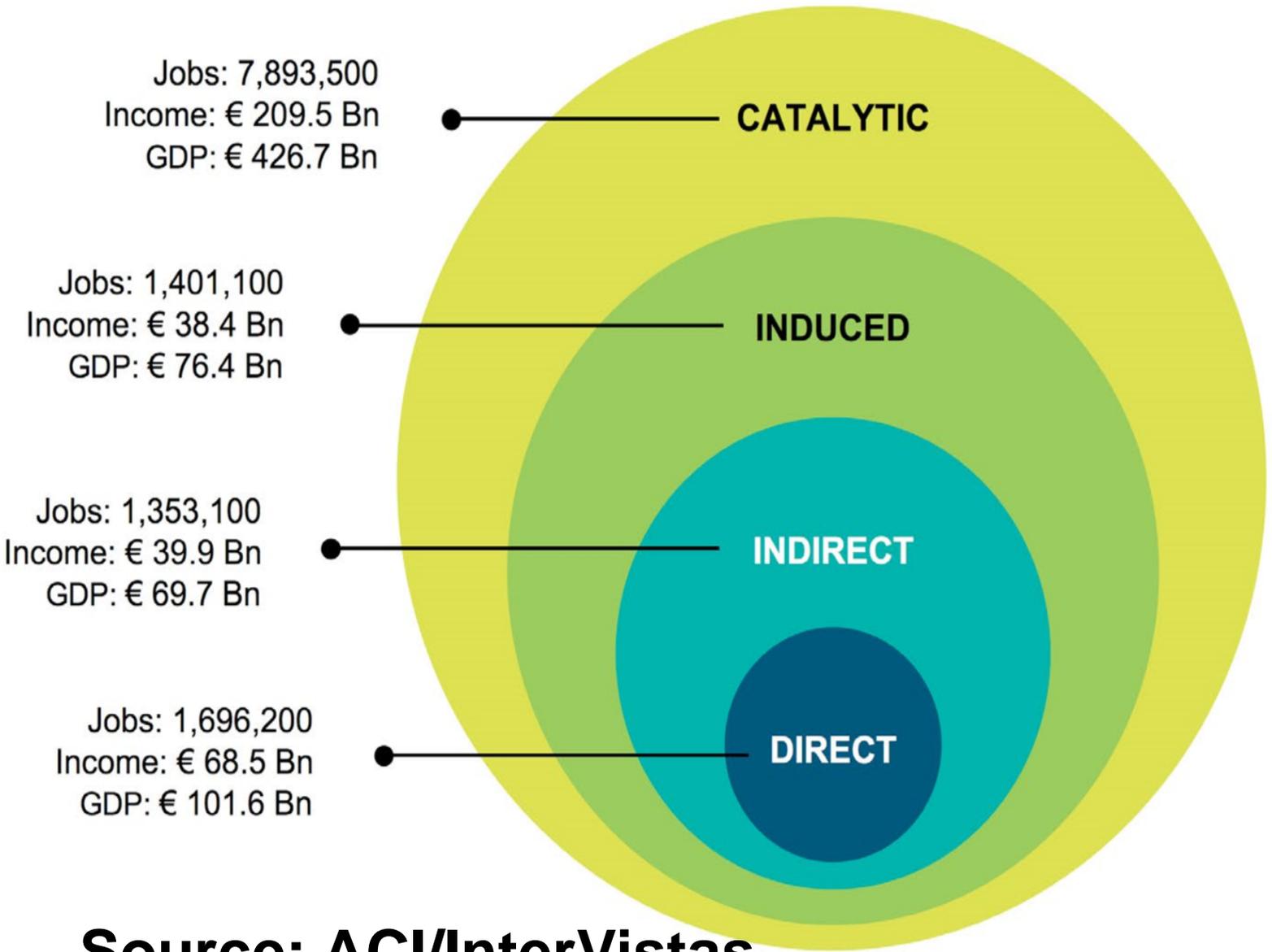
- **Frankfurt Airport's Third Runway creates 57,000 more direct, indirect and induced jobs. Therefore mediation recommends full-scale expansion.**
- **Economic Impact Analysis deludes public**
 - **Substitution and price effects are neglected.**
 - **Direct & indirect effects of are greater the more costly and unproductive an airport is.**
 - **Induced effect is independent of the investment object. If all generated income is spend on local goods the induced effect is maximized.**

II.3. Investment regulation & planning

Catalytic Effects

- **Berlin International Airport (BBI).**
- **Baum (2005) claims catalytic effects as the rationale**
- **Compared to the existing airport system the new BBI will create in addition**
 - **3700 direct jobs**
 - **3400 indirect & induced jobs**
 - **36000 catalytic jobs.**

ACI-Europe: Connectivity -> Catalytic Effects = Wider Economic Benefits = **177 % of impact**



Source: ACI/InterVistas

II.3. Investment regulation & planning

- **ACI is not the ECB. Connectivity is not quantitative easing and not a fiscal stimulus.**
- **Catalytic Effects = WEBs? No!**
 - **Adding “catalytic WEBs” to impact is adding costs and benefits.**
 - **Jobs are costs not benefits. Only new jobs are partial benefits.**
- **Connectivity -> WEBs = Externality = Massive Market failure?**
 - **Are airlines and airports too stupid to charge for the benefits they create?**
- **NO! Connectivity is well priced. There is a small externality, but not a large.**

II.3. Investment regulation & planning

- **UK Airports Commission has created a role model in terms**
 - **CGE and CBA**
 - **transparency and independency**
- **ITF and OECD has endorsed this, but it has not become the norm in Europe.**
- **With bad planning regulation becomes marginal.**
- **What Europe needs is good regulation and good public planning in particular in the current economic crisis:**
 - **Instead of austerity, Keynesian Policy, but without “Keynesian holes” and welfare enhancing airport expansions.**

Agenda

I. Airport competition

1. Are airports natural monopolies?
2. How strong is airport competition?

II. Investment and Regulation

1. Overview on European Airport regulation
2. Slots, rents and investment incentives
3. Investment regulation and planning

III. Performance of Airports

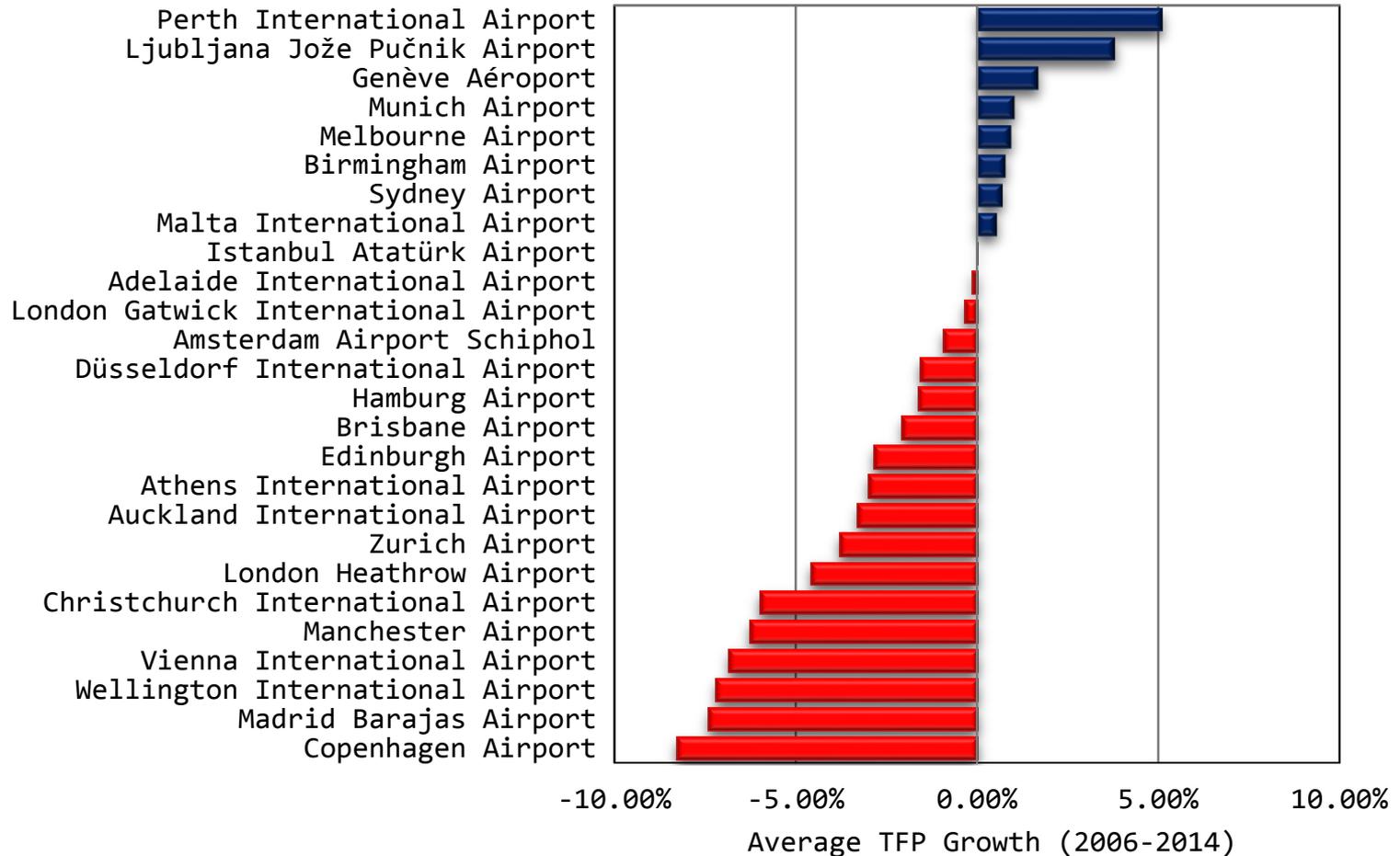
1. Have airports become more productive?
2. Does incentive regulation work?

IV. Conclusions: Issues for Australia.

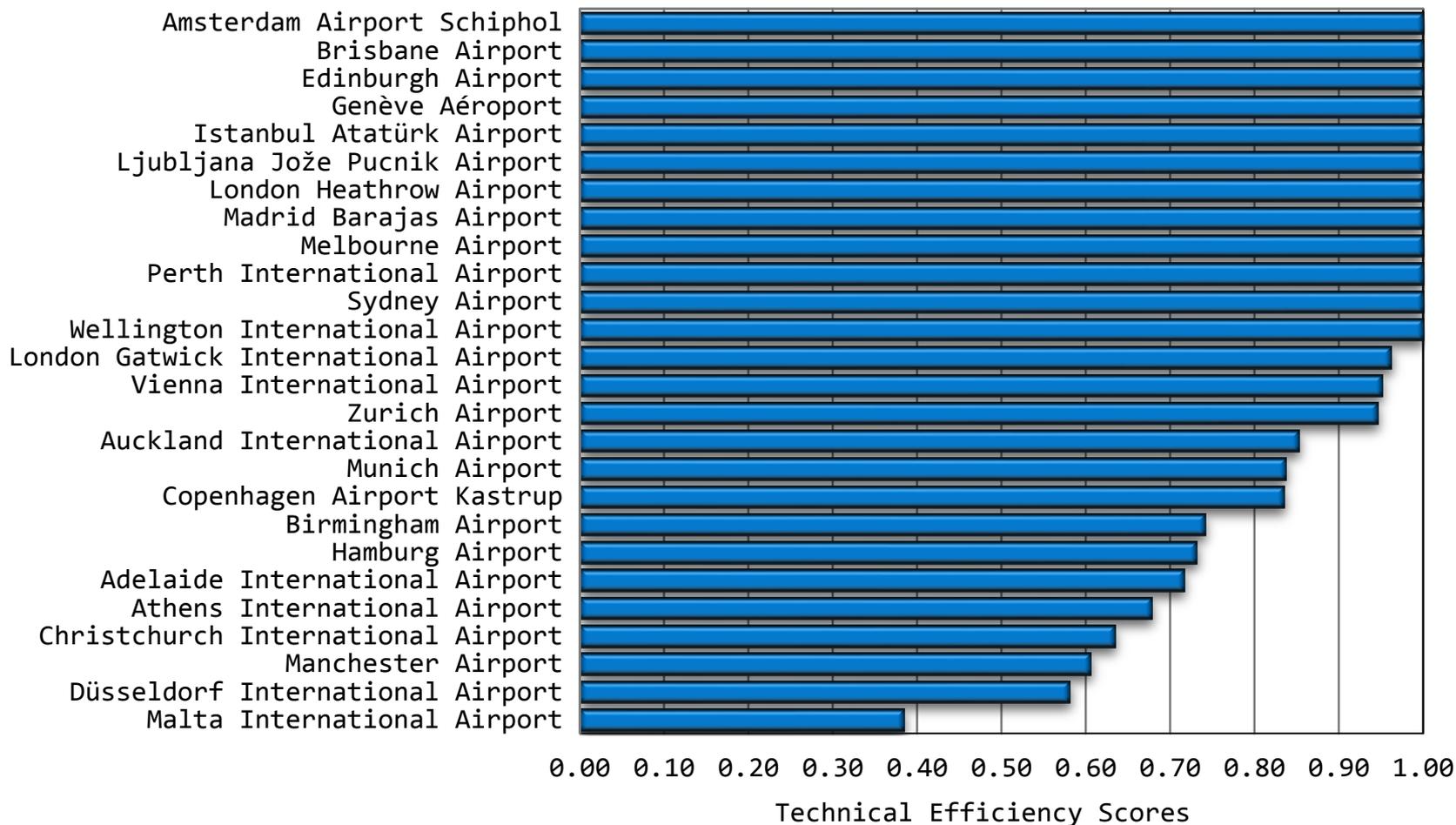
III. Performance of Airports

- Are Australian airports subject to LHR efficient?
- A question so far not answered by LHR
- Very preliminary results of See Kok Fong, Peter Forsyth & Hans-Martin Niemeier (2017)
- Yes, most, although not all Australian airports are efficient in 2014.
- Yes, most, although not all have increased productivity since 2006.
- Caution: **Very preliminary results**

AVERAGE PRODUCTIVITY GROWTH OF SELECTED AIRPORTS, 2006-2014



TECHNICAL EFFICIENCY LEVEL OF SELECTED AIRPORTS IN OCEANIA AND EUROPE, 2014



III. 2. Incentives & Performance

- Does incentive regulation increase efficiency compared to cost plus regulation?
- Adler, Forsyth, Müller and Niemeier (2015)
 - Price capped European plus Australian airports compared with cost based. Unbalanced data set for 1990 to 2010 of 58 airports
 - Short-term managerial efficiency measurement
 - Moving from low to high powered incentive regulation gradually increases productivity between 6 to 10%

Agenda

I. Airport competition

1. Are airports natural monopolies?
2. How strong is airport competition?

II. Investment and Regulation

1. Overview on European Airport regulation
2. Slots, rents and investment incentives
3. Investment regulation and planning

III. Performance of Airports

1. Have airports become more productive?
2. Does incentive regulation work?

IV. Conclusions: Issues for Australia.

IV. Conclusions

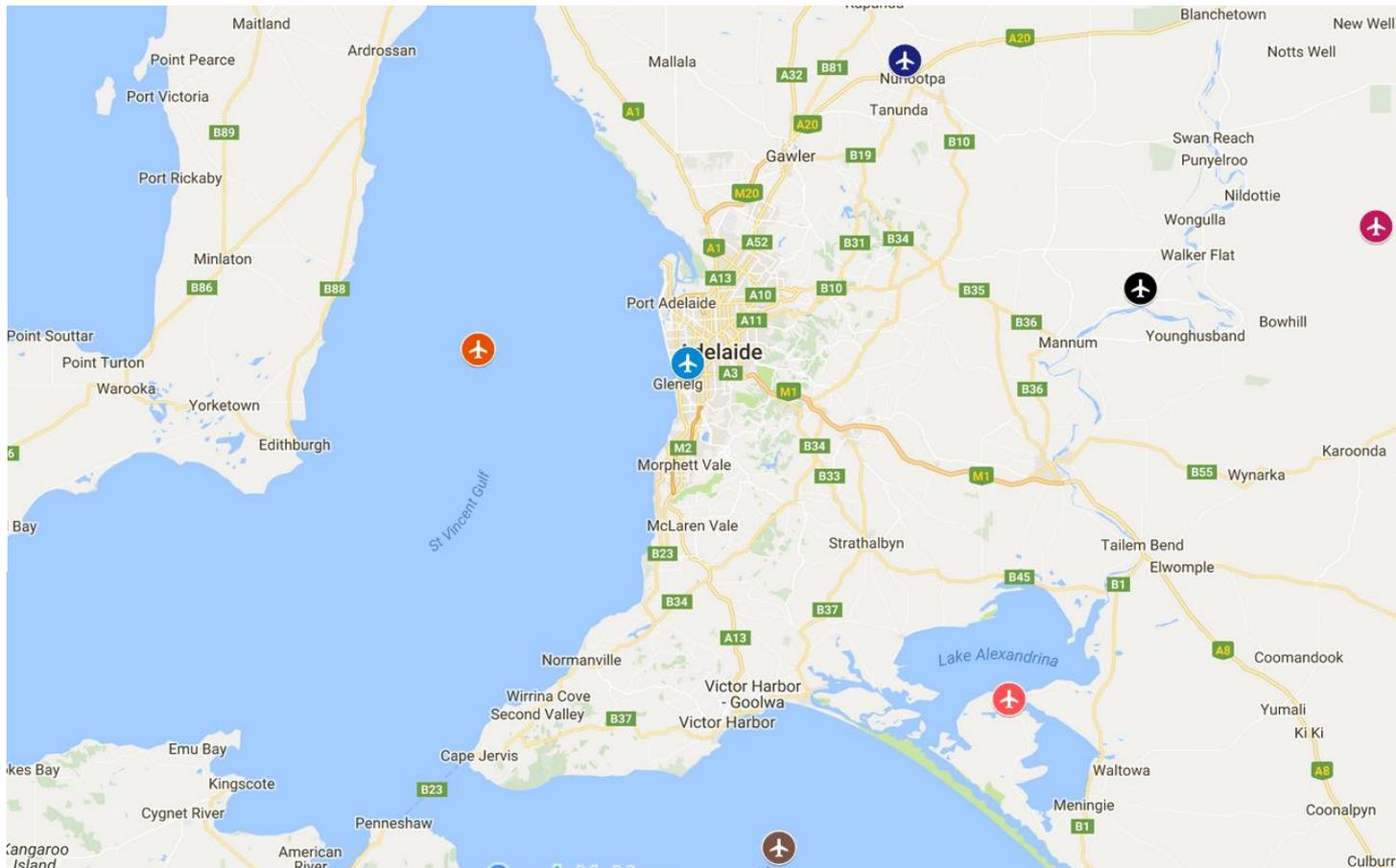
- The strength of airport competition has been overstated. In most countries at least one airport has persistent market power.
- With the exception of UK/Netherlands the scope for competition and the need for regulation is not well assessed by authorities.
- Increase competitive forces and regulate monopolistic bottlenecks by well designed incentive regulation. Although incentive regulations increases efficiency, this policy is hardly implemented:
 - Weak regulatory institutions with partially privatised airports
 - Cost based thinking dominates especially with investments.
 - Slots rations demand with inefficient structure of charges.
- The ideology of airports as job machines leads to irrational decisions of master planning limiting the effectiveness of economic regulation.

IV. Seven Issues for Australia

- Has Adelaide persistent market power?
- “Adelaide airport’s recent investments, size, position in the national network and long-term customer contracting ensures that the countervailing power of airlines is an effective constraint against its relatively low market power.” Productivity Commission (2011)
- How would the UK CAA and CC assess Adelaide Airport?

IV. Seven Issues for Australia

- How would the UK CAA and CC assess Adelaide Airport?



IV. Seven Issues for Australia

- How will LHR and slots work with scarce capacity?
- Slot allocation reduces congestion and is superior to US first come first serve with high congestion and no slot rents for airlines.
- US sets capacity limit higher than Europe. Will Australia get it right?
- Secondary trading only at Heathrow. No well developed secondary trading market. No auctioning. Negative effects on airline competition.
- Will SYD adopt per movement charge and low off-peak prices?

IV. Seven Issues for Australia

- **Market entry in large European airport markets**
 - **Public:** In Berlin and Amsterdam entry blocked by corporatized airports.
 - **Privatisation process prefers monopolies over competition.**
 - Contracts which prevents entry
 - Group privatisation: BAA in 1985, ADP in 2006
- **In Europe the new Sydney airport would have been owned by Sydney airport irrespective of ownership.**
- **There is no similar case in Europe to the second Sydney airport.**
- **Rent seeking might prevent competition and could cause additional welfare losses.**
- **Alternatively competition might lead to inefficient duplication of assets.**

IV. Seven Issues for Australia

- Entry without product differentiation is not possible.
- Is New Sydney Airport a profitable investment?
- If not, why has it a positive CBA ratio? How rational is the public planning process?
- Product differentiation will give SYD additional market power only confined by hub competition.
- With growing demand scarcity rent and monopoly rent will grow. SYD will become very profitable.
 - Will airlines accept this?
 - Will airlines and airports jointly share rents and exploit the public?
 - Will LHR work?

IV. Seven Issues for Australia

1. Has Adelaide persistent market power?
2. Can New Sydney Airport enter the Sydney market and limit the market power of SYD or will it become a white elephant?
3. How rational is the public planning process?
4. How will LHR work with scarce capacity?
5. Will there be market based slot allocation?
6. Will LHR lead to optimal capacity expansion?
7. Why do regulators, policy makers and academics not assess the performance of airports more vigorously?

Thank you very much!