



Five Puzzles in The Economics of Air Transport:
A Behavioural Perspective

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The Paper

- **Standard theory handles most problems in airline economics well, but**
- **There are some puzzling gaps, and**
- **Some alternative “behavioural” explanations could have a role**

Genesis

- **Stimulated by reading e.g. of books like Akerlof and Schiller**
- **Not an expert on behavioural economics**
- **Can it be used to shed light on economies of aviation?**
- **Puzzles - five considered here**



Approaches to Theory

- **Aviation encounters very day to day types of problems**
- **Handled using standard methods**
- **Such as profit max, expected utility, well informed consumers etc**
- **Most or many problems are can be handled in this way**
- **Airline competition, pricing, mergers, and regulation**
- **But some puzzles remain**
- **Can they be solved using “behavioural” approaches?**



Behavioural Approaches

- **Term here is used very broadly**
- **Could include explicit reliance on behaviour / psychological theories**
- **Or, some non standard approaches**
- **Or, variants on standard theories, such as size max**
- **Might be regarded as “non rational”**



Emphasis

- **Problems rather than solutions**
- **Some problems are easy to handle, others very difficult**
- **More research is needed on all them**
- **But some could yield dividends soon**

Analogy - Public Choice

- **Public choice is often accepted as a complement to mainstream analysis**
- **Public interest theories often regarded as missing important aspects**
- **Economists mix traditional neo classical analysis with public choice, to gain better explanations**
- **E.g. in the economics of airports**
- **Likewise, behavioural explanations can be of help**



Five Problems

- **1 Airlines and the ETS**
- **2 Airport Slots**
- **3 Fuel Hedging**
- **4 Airline Profitability**
- **5 Airport Noise**

1 Airlines and the ETS

- **Airlines are about to be covered by ETSs**
- **Aust- and NZ domestic, but not free.**
- **NZ July 2010, Aust ???**
- **EU-mix of free and auctioned permits**
- **Non EU airlines will be caught in the EU system- eg Qantas; United; Emirates**
- **Proposals for free permits for the industry**
- **But will free or paid for permits make any difference to the outcome?**

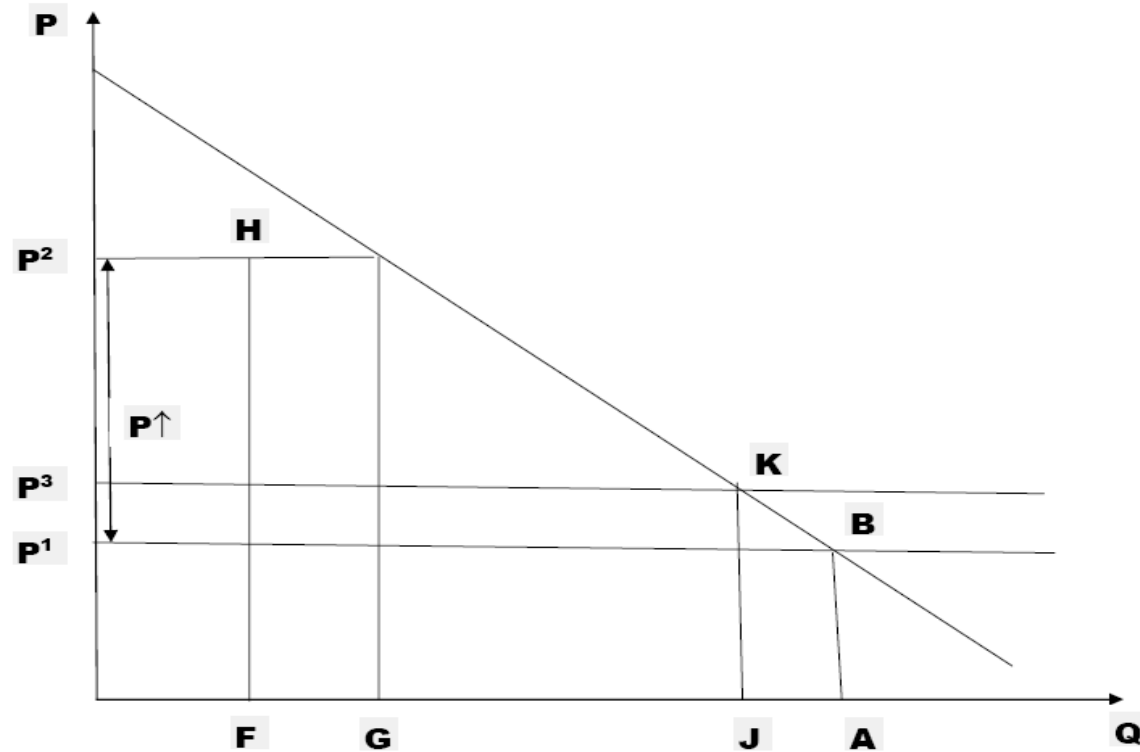


Fig. 3 – Emission Trading Scheme

No

- **In theory, no**
- **With same allocation of permits, market price should be the same**
- **Only change is to distribution**
- **In practice, some qualifications**
- **E.g. ways in which permits are allocated will affect incentives**
- **Thus, a 30% free allocation might push costs for a particular route up by 3 Euro**
- **And air fares will increase by 10 Euro**



Airline Profits and Free Permits

- **Airline groups- are they aware of the real value of free permits?**
- **US, Australian, UAE (and European) airlines stand to make a real killing from free (or partly free) permits**
- **Like they do when allocated free airport slots**
- **Why complain?**
- **Airline Global Deal Group (BA, Virgin, Virgin Blue etc) advocate a global deal, under which they will get a proportion of the slots free**
- **Selfless concern for the environment?**
- **Or smart ?**

Will Consumers Gain from Free Permits?

- **But will this happen?**
- **Many argue no**
- **Airlines only pass on the permits that they pay for**
- **Will airlines undercut their rivals and pass free permits on?**
- **Why? Will not be their profit max response**



A Real Test

- **The response will be a real test of behaviour**
- **How airlines value what they are not required to pay for?**
- **Will airlines act in a profit max way?**
- **Size max is consistent with giving away free permits**
- **Or other behavioural explanations?**
- **What clues are there in other examples of allocation of ETS permits? Eg Electricity?**
- **(If airlines do not max profit, the ETS will be ;less effective in cutting back CO2 emissions)**

2 Airport Slots

- **Many airports are in excess demand**
- **Capacity is tightly constrained**
- **Often congestion is the result**
- **But non US airports declare a slot limit**
- **Objective is to limit slots to available capacity**
- **Airlines require slots to use the airport**
- **For some airports slots are in high excess demand**
- **London Heathrow, Frankfurt**
- **Slots are used for coal ports in Aust; trucks in Sydney; train paths in Europe**

Slot Rents

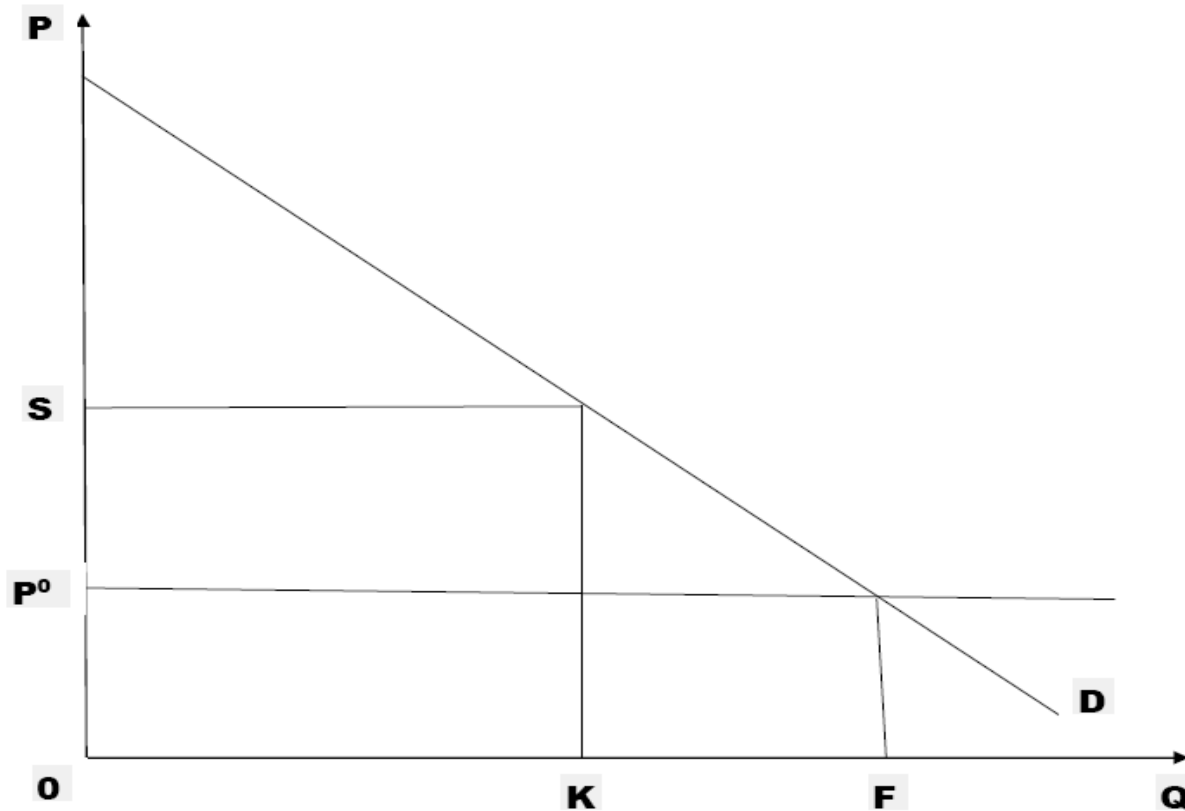


Fig. 1- Slots

Slot Rents

- **Slots can command high prices**
- **Most countries discourage slot trading**
- **Grandfathering**
- **UK does not**
- **Daily slot pairs at Heathrow can sell for \$40m US**
- **Up from around \$20M about 4 years ago**
- **British Airways has 42% of LHR market**
- **1296 slots per day (648 pairs)**
- **Suppose at \$30m US per pair**
- **Value at £4880**
- **BA market capitalisation at £2178**
- **???**



What Happens to Slot Rents?

- **Do airlines not value what they don't pay for?**
- **Passengers do not share the bounty- LHW premium**
- **Are costs too high?**
- **Are other routes being cross-subsidised?**
- **Size rather than profit the objective?**
- **If BA and LH are max profits, why are they not more profitable?**



LHR Non Expansion

- **In UK, the new Conservative-LDP government recently announced that it is cancelling plans for a 3rd runway for LHR**
- **The change of Govt was not a surprise**
- **Constraining LHR puts pressure on slots- now more valuable**
- **BA the BIG winner**
- **Has it been reflected in the price of BA?**
- **Event study- but when did the announcement happen?**
- **Election? Policy change? Opinion polls?**
- **Not much evidence**



Heathrow Slots and BA Price

Time	BA Price	FTSE
June 10	201.5	9998
June 09	158.6	7415
June 08	230.3	9146
June 07	470.0	11528

3 Fuel Prices

- **Airline fuel prices are volatile**
- **Some airlines do, others don't hedge**
- **Hedges are costly**
- **Hedges are not open-ended – limited**
- **In theory, spot price will be the going rate**
- **If price goes up unexpectedly, hedged airlines gain from cheaper fuel**
- **A one-off lump sum gain**
- **Do they ever respond differently?**



Fuel Hedging Fig 2

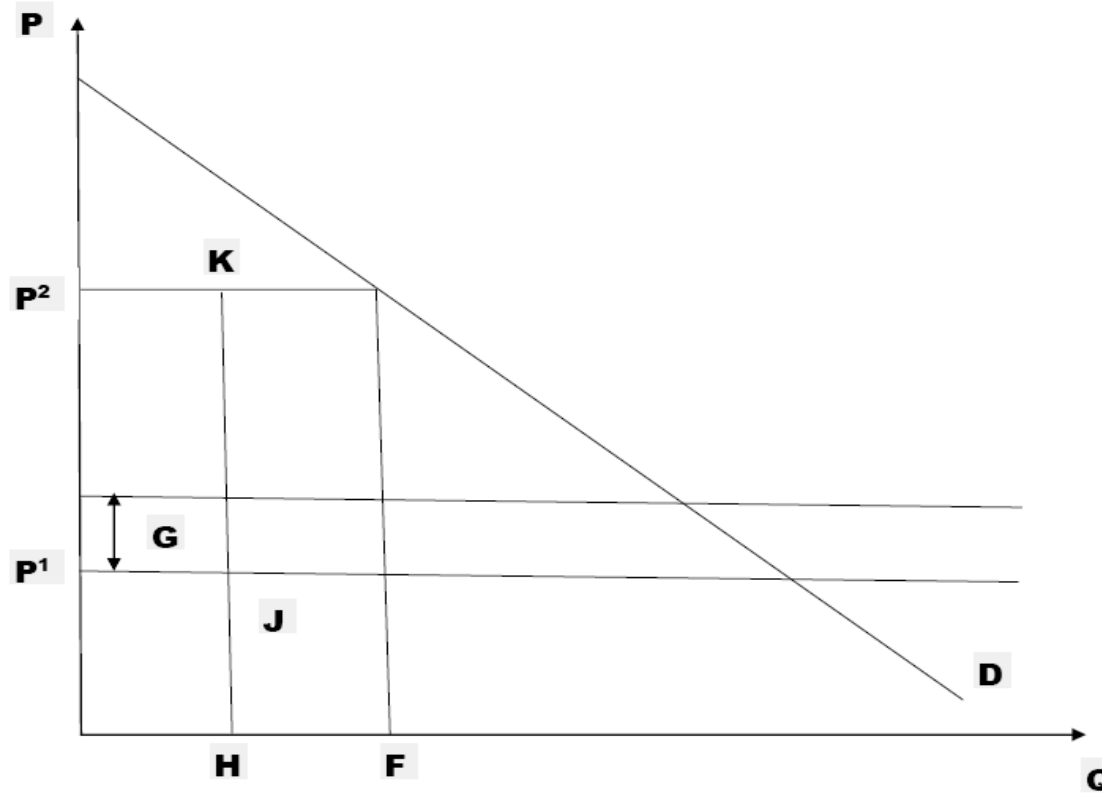


Fig. 2 – Fuel

Alternative Responses

- **Airline may not pass through the full cost if it has good hedges**
- **Has been suggested that some airlines “share the profits”**
- **Win market share from non-hedged competitors?**
- **Qantas vs Virgin Blue?**
- **Desire to be seen as not profiteering?**
- **But hedges are not free- paid for**



Behavioural Explanations?

- **Potential evidence of non profit behaviour**
- **Not much empirical support so far**
- **Recent price rises provide opportunities for study**

4 Airline Profitability

- **Airlines are chronic loss makers**
- **Few have a good record over a long time span**
- **Yet most airlines seem to be seeking profits, at least in theory**
- **Airline jokes – to get an airline worth 1bn, buy an airline worth 2bn and wait 5 years**
- **Do many airlines really pursue profit max?**

Some Explanations

- **Subsidies and bail outs e.g. 9/11**
- **Support for “flag carriers”**
- **Privatisation and lags**
- **Regulation as a form of support, protection**
- **US bankruptcy provisions**
- **Emirates?**
- **How do airlines fund assets?**
- **More emphasis on covering costs? EU?**
- **Promise to be good later?**



Upshot

- **Airlines have had the scope to pursue non profit agendas**
- **May have had incentives to pursue these agendas**
- **Models of airline behaviour should factor these in**

5 Airport Noise

- **Airport noise is a well known problem**
- **But do people exaggerate the problem?**
- **And if so, why?**
- **Is now a wealth of airport noise cost estimates**
- **Hedonic and CV methods**
- **Mostly, noise is only a second order problem**
- **Yet often noise is a major constraint for airport development**
- **Why the fuss then?**



Explanations?

- **Public choice approach – need for lobbying, unclear property rights, risk averse govts**
- **Other externalities – social regard for suburbs**

Behavioural Perspectives

- Perhaps people do not cost noise as at the “scientific” level
- Those who do not value “free” gifts at their full value may also overvalue “negative” gifts
- I.e., put a high cost on unwelcome impositions



Further Puzzles

- **Valuing FFP rewards- do consumers fully value the rewards that are free?**
- **Why do airlines (vehemently) oppose peak pricing by airports?**

Assessment

- **1 ETS – a big query, but easy to test for, a real opportunity for analysis**
- **2 Slots – distinct problem, rents disappear, suggestion of non max behaviour by airlines**
- **3 Fuel Hedging – may not be a problem, could be consistent with profit max behaviour**
- **4 Airline profitability-often commented upon, little analysed, confusing**
- **5 Noise – documented problem, public choice or behavioural explanations**



Comment

- **Examples of “non rational” behaviour seem to be at the firm rather than the consumer level**

Conclusions

- **There are examples of puzzles in air transport economics**
- **Standard theory works well but not always**
- **A mixed bag of problems, and different approaches may be needed**
- **Some puzzles are more amenable to behavioural solutions than others**
- **The best test will be the response of airlines to free ETS permits**
- **And perhaps the most puzzling is the disappearance of slot rents**

Thank You!

