

8. PRICING

Introduction

- **Pricing** is a vital component in the economics of transport
- The price determine who **gets** and who doesn't get a particular service, but also determines the **distribution of rewards** between the provider and the user
- The **imperfect market** structures are characterized by higher rewards for the providers

The principles of pricing

- In most cases, transport services are **subsidised** and/or **regulated**, however a basic understanding of pricing principles is needed
- In order to achieve economic **efficiency**, the price should equal the marginal cost
- In imperfect competition markets, it is possible to observe 1) **price discrimination**, 2) **predatory pricing/bidding**, 3) **price fixing**
- We will also investigate **congestion pricing**

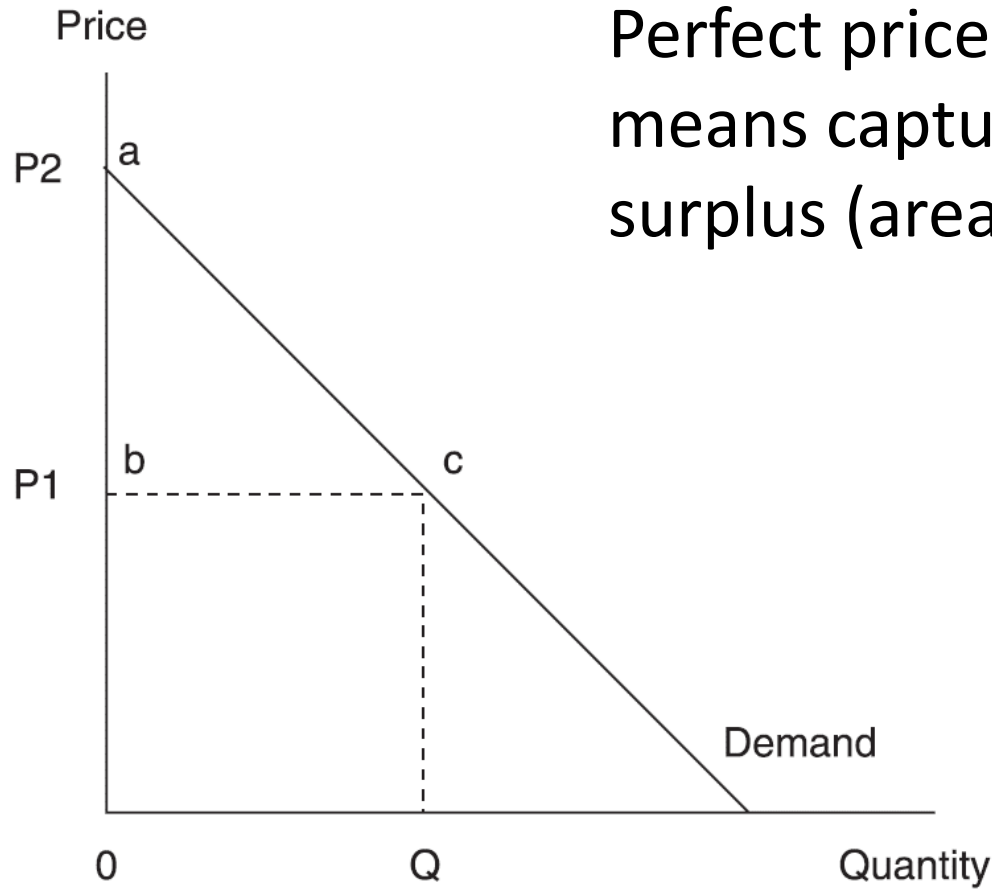
Price DISCRIMINATION

- **Price discrimination** refers to a situation where a company charges particular consumers a higher price than others for the same product for reasons unrelated to cost.
- The seller: 1) must possess a degree of **market power**, 2) must be able to **divide the market** and 3) market segments must have **differing elasticities** of demand.

Perfect price discrimination

- To sell **each unit** (or ticket) **separately**, charging the highest price that each consumer is prepared to pay
- If this was achievable, the seller would obtain the **entire consumer surplus** from the consumer
- The seller **must know** the exact shape of each consumer's demand and charge each consumer the maximum price they are prepared to pay

Consumer surplus

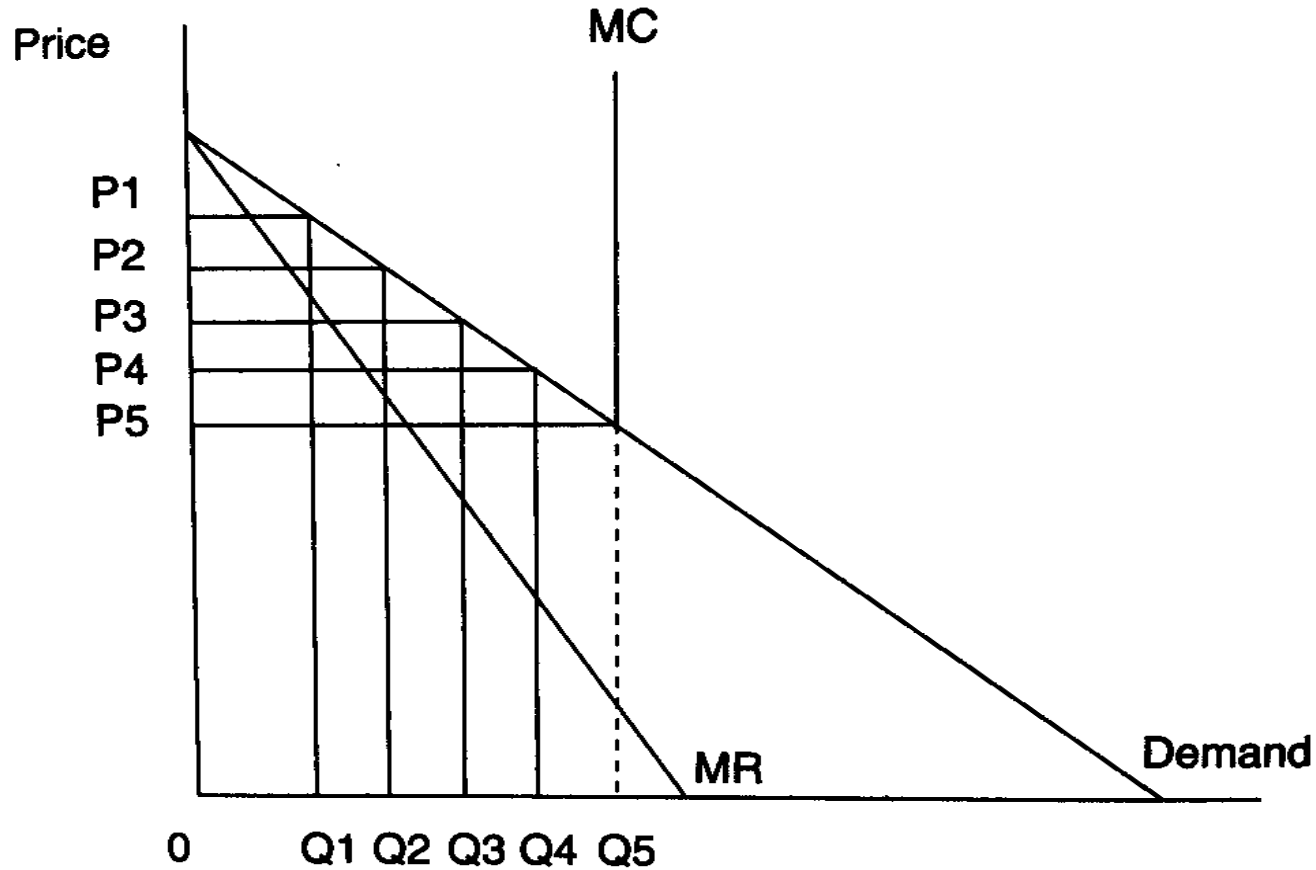


Perfect price discrimination means capturing all consumer surplus (area abc)

Case: Sale of airline tickets

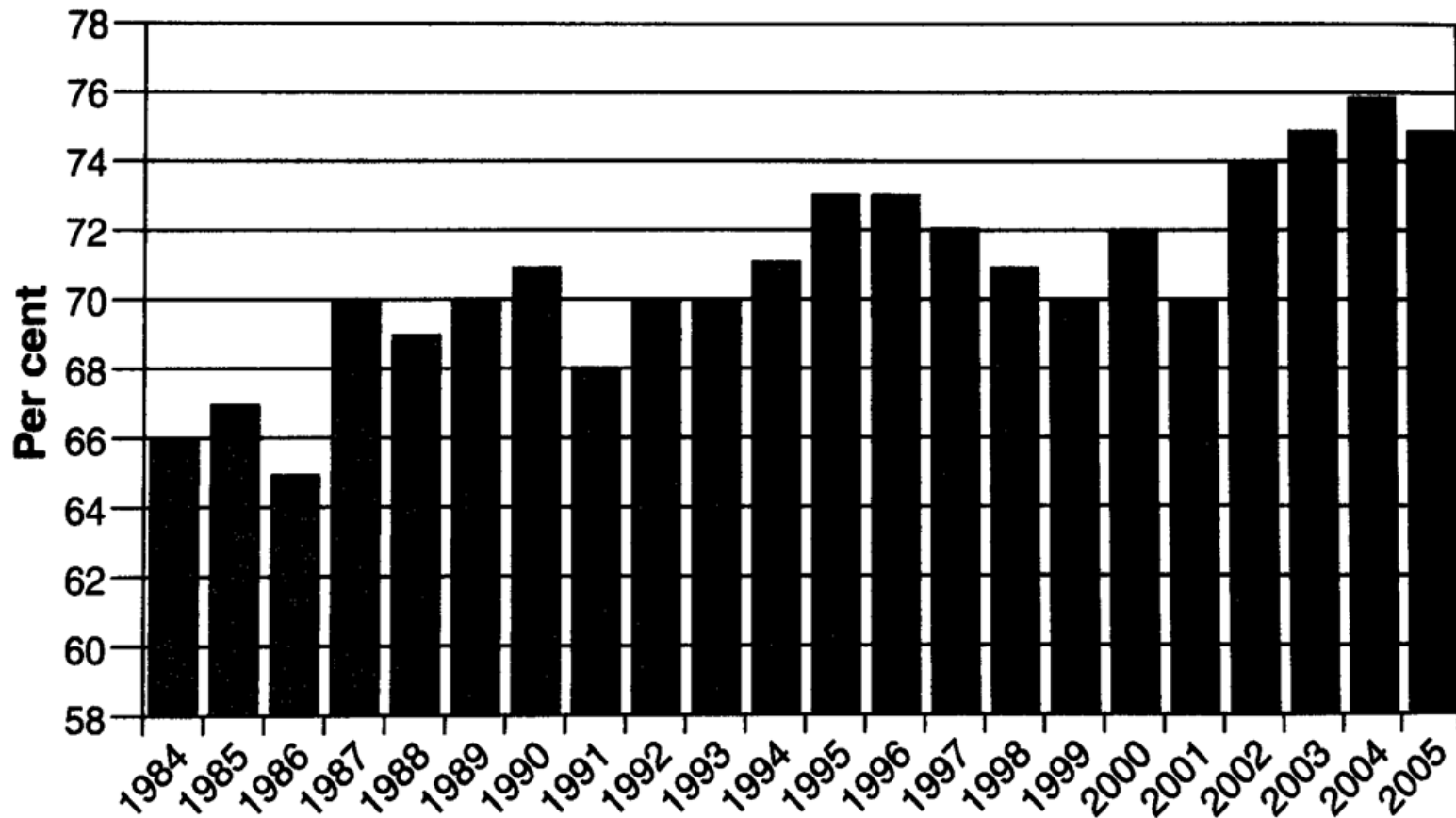
- On a typical airline flight there are three **classes**, namely First, Business and Economy.
- Figure on the **next slide** refers to travel in a particular class and the assumption is made that the marginal cost of one extra passenger is constant up to the point where the aircraft reaches full capacity. At this point the MC curve becomes perfectly inelastic

Airline price discrimination



Yield management in the aviation

**Load factors for scheduled UK airlines, 1984–2005
(percentage of seats used)^a**



Source: Eddington Study Analysis of UK airline statistics 2005, Civil Aviation Authority.

Exercise (1)

- You are the manager of the Airline and unable to determine whether any given passenger is a business or leisure traveller.
- Can you think of a self-correction mechanism that would permit you identify business and leisure travellers?

Exercise (2)

- Suppose that a transport carrier is accused of price discriminating in two separate markets.
- The carrier replies that he can't be price discriminating, since he is charging the same price in each of the markets.
- Do you agree or disagree with the carrier's response?

Exercise (3)

- Business travellers have more inelastic demands for air services in comparison with vacation travellers.
- If an airline charges business and vacations travellers the same route fare between Chicago and Los Angeles, does this necessarily imply that the airline is not price discriminating?
- Under what conditions would this be consistent with price discrimination?

PREDATORY pricing

- **Predatory pricing** occurs when a firm with market power reduces its price below cost in the short run so as to obtain abnormal profit in the long run.
- Predatory pricing is aimed at either achieving or maintaining a monopoly situation, with the price set so as to **bankrupt competitors**, „encourage“ them to merge or in fact collude.

Predatory pricing

- The consumer may benefit in the short run from lower prices, due lower competition such activity may **not be in the public interest** in the long run.
- In practise it can be very **difficult to prove** that such activity has taken place
- Predatory pricing is an appealing strategy in a **segmented market**

EWS and predatory pricing

- **EWS** (English Welsh and Scottish Railways) has been at the centre of a number of accusation of predatory pricing
- One case was **heavy haul sector** in rail freight where EWS acted as freight forwarder and offered customers end to end services in the transportation of coal.
- In 2001 **Freightliner**, the other main rail operator entered the heavy haul sector with direct competition with EWS

EWS was accused of:

- **Discriminatory pricing** practices → by offering selective price reductions to various customers
- **Predatory behaviour** towards Freightliner → EWS had offered prices to two electricity generators that were significantly below its average costs
- **Exclusive contracts** → several power generator customers were required to sign long term supply contracts with EWS

Verdict

- The regulator ORR found **EWS guilty** and fined it with 4m GBP; due to leniency program, there was a 35% discount in fine due to EWS cooperation in the investigation
- In similar case – lease of loco for tourist charter trains in Scotland – ORR decided that there were **no grounds** to conclude that EWS had engaged in predatory pricing or anti-competitive behaviour

Predatory BIDDING

- A similar practise to predatory pricing is a **predatory bidding** that relates to predatory pricing in competitive tenders.
- The **competitive tendering** occurs when firms bid for right to run service or gain a certain contract.
- The competitive tender is often utilized to choose the provider of subsidized **rail passenger services**.
- *Q: Do you think it is a good idea to choose the operator in such tender on the base of only one parameter – lowest price?*

Predatory bidding in Sweden

Alexandersson, G., & Hultén, S. (2006).
Predatory bidding in competitive tenders:
A Swedish case study. *European Journal of
Law and Economics*, 22(1), 73-94.

Abstract

- **Public procurement** by competitive tendering is an important part of European policies to encourage competition in network industries previously dominated by public companies.
- In recent years, the appearance of **very low bids** has become an issue in several countries.
- **A case** of tendering for train services in Sweden is used to illustrate the possibilities to detect an abnormally low bid.

Why do firms place very low bids in tenders?

- Cost advantage
- Economies of scale
- To weaken/destroy competitors
- Winner's curse
- Moral hazard

Legislators view on predatory bids

- EU legislation does not consider predatory pricing **as such**
- Instead, it focuses on price reductions as one of several practices related to **abuse of dominant position**
- How to identify „**unreasonably low bids**“?

Tendering in northern Sweden

- In 2002 Connex won **tender** for operating night train services to northern Sweden
- **Connex**, originating from France, is Europe biggest private passenger transportation company (55.000 employees and 3.4 bn EUR turnover (2003))
- **Tagkompaniet** – small competitor that lost the contract (this contract was 80% of its turnover) bitterly complained that Connex bid was „totally unrealistic“
- Swedish **Competition Authority** decided not to take action, after failing to find sufficient support to investigate any possible violation of the Competition Act

Comparison of the bids

Table 1 Comparison of the bids of Tågkompaniet and Connex (million SEK)

| <i>Traffic year</i> | | 02/03 | 03/04 | 04/05 | 05/06 | 06/07 | 07/08 |
|---------------------|------------------|-------|-------|-------|-------|-------|-------|
| <i>Tågkompaniet</i> | Cost forecast | 346 | 356 | 365 | 384 | 396 | 407 |
| | Revenue forecast | 253 | 264 | 272 | 281 | 296 | 312 |
| | State subsidy | 105 | 105 | 105 | 114 | 109 | 104 |
| <i>Connex</i> | Cost forecast | | 324 | 319 | 320 | 320 | 325 |
| | Revenue forecast | | 258 | 263 | 268 | 274 | 279 |
| | State subsidy | | 75 | 65 | 60 | 55 | 55 |

Sources: Rikstrafiken (2002c, 2002e), Tågkompaniet (2002) and own calculations.

The assessment of Connex bid

- Conservative in **revenue** projections
- Very ambitious in **cost** reductions
- Connex publicly declared that it will **not cut** down on staff or change the working conditions
- **No allowance** for expanded vehicle maintenance
- **Summary:** Connex bid has been „extremely low“

Subsequent development

- 2004 – Connex were **criticized** for running old and very run-down trains, lacking the comfort passengers expected.
- Connex appeared **not** to be willing or able to keep the interior of trains in **good shape**
- Patronage plummeted and in late 2004 the management of Connex was facing massive **criticism** from staff and union.
- The **head** of the services was **replaced**

Subsequent development

- Worsening conditions for travelling by train between Stockholm and Northern Sweden, causing a **political debate** that soon reached the national level
- The end result was a decision in **Parliament** to direct an extra 100 million SEK per year to improve the quality of services
- It is pretty clear that the bid of Connex was **not realistic**
- *Q: What are the lessons from this case study?*

Price fixing

- Firms in oligopolistic markets often face a dilemma as whether to **compete or to collude**
- Collusion allows firms to act as a monopolist with **maximising their joint profit**
- Price fixing is one such collusive activity, a situation where firms **agree on the price** in order to remove price competitiveness
- Active collusion (as opposed to tacit collusion) in most developed countries is against competitive legislation and therefore **illegal**.

British Airways and price fixing

- In August 2007 the Office of Fair Trading (OFT) fined British Airways £121.5m for illegally **fixing fuel surcharges** levied on its passengers undertaking long-haul flights.
- The fine, which represents **1 per cent of BA's turnover**, was the result of investigations by the OFT (which began in June 2006) into collusion between BA and Virgin Atlantic in terms of setting fuel surcharges over the period August 2004 to January 2006.
- BA and Virgin are said to have **discussed or informed** each other about their proposed changes to fuel surcharges, as opposed to independently setting levels which is required by Competition Law over that period.

Competition policy

- It can be quite **difficult to distinguish** between price fixing which is illegal and legal price setting that constitutes price leadership.
- In this case of fuel surcharge price fixing, Virgin Atlantic contacted the OFT in order to report the collusive activity and as such escaped a fine itself since under the OFT '**leniency policy**' it was granted immunity
- The fixing of the fuel surcharge have increased their profit margins, It is however a risky activity, as shown by BA's experience since it is illegal and liable to financial penalty if exposed. The whole episode reflects negatively on the **reputation** of BA and Virgin Atlantic

Airport charges

Bel, G., & Fageda, X. (2010). Privatization, regulation and airport pricing: an empirical analysis for Europe. *Journal of Regulatory Economics*, 37(2), 142-161.

Introduction

- Both **airports** and major airline **operators** have significant market power
- What are factors that determine the level of **airport charges**? - Volume of traffic?
Public/private ownership? Regulation?
Competition?
- Is it necessary/useful to **regulate** the level of airport charges?

Variables

PR is the price charged by the airports to airlines for traffic within EU.

1. ***Total_Traffic*** is the airport's total volume of traffic.
2. ***%National_Traffic*** is the domestic traffic as a percentage of the airport's total traffic.
3. ***Number_nearby_airports*** is the number of airports that lie fewer than 100 km away.
4. ***HHI*** is the the Hirschman-Herfindhal index of concentration at the airport in the terms of the number of flights offered by the airlines operating out of it.
5. ***%Airline_alliance_traffic*** is the percentage of traffic channelled by the airlines integrated within international alliances.
6. ***Private_Non_Regulated*** is the dummy for private and non regulated airports.
7. ***D^{island}*** is a dummy for airports with an island location.
8. ***D^{system}*** is a dummy for airports in countries that operate a price fixing system.

Results

Table 6 Elasticities evaluated at sample means

| Dependent variable: PR | All sample |
|-----------------------------|------------|
| Total_Traffic | 0.08*** |
| %National_Traffic | -0.12** |
| Number_nearby_airports | -0.01 |
| HHI | -0.07 |
| %Traffic_airlines_alliances | 0.18*** |
| Private_NoRegulated | 0.07*** |
| D _{island} | 0.02 |
| D _{System} | -0.03 |

Discussion

- Airports with the highest volumes of traffic charge higher prices to airlines. There are **two** possible **explanations** for this result; higher extraordinary rents or higher overall costs.
- The amount of domestic traffic as a proportion of total traffic has a negative influence on airport charges, since this traffic is more vulnerable to competition from other transport modes or to the fact that the **country's airport policy** might favor lower prices
- An airline's **negotiating power** with the airport is greater the larger the market share this airline enjoys at that particular airport

Conclusions

- This paper examines factors determining airport charges. Using data for 100 large airports in Europe, we find that they charge **higher prices** when they move **more passengers**.
- **Competition** from other transport modes and nearby airports imposes some discipline on the pricing behaviour of airports. Low-cost carriers and airlines with a high market share seem to have a stronger countervailing power.
- We also find that **private airports** not regulated charge higher prices than public or regulated airports.
- Finally, the **regulation mechanism** does not seem to influence substantially the level of airport charges.

CONGESTION PRICING

- Road pricing is designed as a measure to **reduce congestion**. As such it will impact on the price of the journey, it represents a charge for the use of road space
- Number of schemes worldwide: Singapore, **Stockholm, London**
- The first major congestion charging scheme in Britain was launched in **Central London** In February 2003. The aim of this scheme was to reduce congestion

Congestion charges London - design

- Motorists entering the congestion charging zone between 7 am and 6 pm, Mon – Fri, excl. Public holiday are charged **8 GBP**.
- **700 video cameras enforce** the scheme via the scanning the rear number plate
- Motorist have to pay the charge **by midnight**
- If they fail **a fine 100/50 GBP** is imposed
- **Certain groups** are exempt or given a discount

Congestion charges London - advantages

- **Reducing market failure** (congestion)
- More efficient **usage of scarce resource** (road space)
- **Revenue** from congestion charges can be used to improve alternatives (PT)
- More **direct** than regulation
- **Encourages PT**
- Can be varied at very short notice – it is **flexible**
- It **works** – it has impact on congestion

Congestion charges London - disadvantages

- Invasion of **privacy** – photos of vehicle number plates
- **Regressive** nature – lower income households pay higher proportion of their income
- High **administrative costs**
- **Simplistic technology** – the charge is not changing with the level of congestion
- **Double payment** of road users (taxes, charges)

Discussion question

- Would you recommend the introduction of congestion charges for your home town?

