Imperfectly competition in transport markets

EE382

Types of imperfect market structures

- Monopoly
- Contestable
- Oligopoly

Monopoly

- A monopoly in transport services is said to occur where there is only one supplier to the market (pure monopoly)

- In practical terms a monopoly situation is generally considered to exist in Britain where one firm controls more than 25 per cent of the market

- Example rail or bus services

Strong barrier to entry

- Initial costs
- Sunk costs
- Brand loyalty
- Anti-competitive behavior
- Economies of scale
- Patents and licenses

Initial costs

- Require a certain initial expenditure on capital
  - Purchasing of a fleet of aircraft in order to enter the airline industry
  - Purchasing of a license to enter the taxicab industry

Example, Air Scotland

- Established in 2002 by Dhia Al-Ani in partnership with the Greek charter company Electra Airlines
- Scotland's first low cost airline
- Involves tremendous costs
  - Leasing or purchasing aircraft
  - Airport, labor and marketing costs
- Began scheduled flights in 2003, the company has experienced a number of problems and as a result has changed ownership

Sunk costs

- An expenditure that a producer has to make in order to enter a market that is unrecoverable on exit from the market
- Example the Channel Tunnel

Brand loyalty

- A new entrant may find such existing competition a deterrent to entering the market

Example- British Airways image revitalization

Anti-competitive behavior

- Predatory pricing through cross-subsidization
- Vertical restraints
- Negative branding
- Collusion

Example – The British Airways and Virgin Atlantic feud

- The launch of Virgin in an attempt to disturb the transatlantic monopoly enjoyed by BA
- The early 1990s, Virgin accused BA of dirty tricks in its attempt to prevent the fledging airline from developing into a serious competitor
  - The pouching of Virgin's passengers by using ticket touts to offer cheaper fares at airport and by obtaining Virgin passengers lists to target passengers for special deals
  - Pressure travel agents into promoting BA instead of Virgin
  - Making Virgin flights less attractive to consumers by delaying onward flights for Virgin travellers
  - Feeding damaging stories and information about Virgin to the media
  - Applying for routes that would secure it an unfair advantage

Economies of scale

- If a producer is able to grow to such a size that it is operating on a significantly lower average cost curve than its competitors it will be able to sustain a lower price whereas its competitors will fail to compete

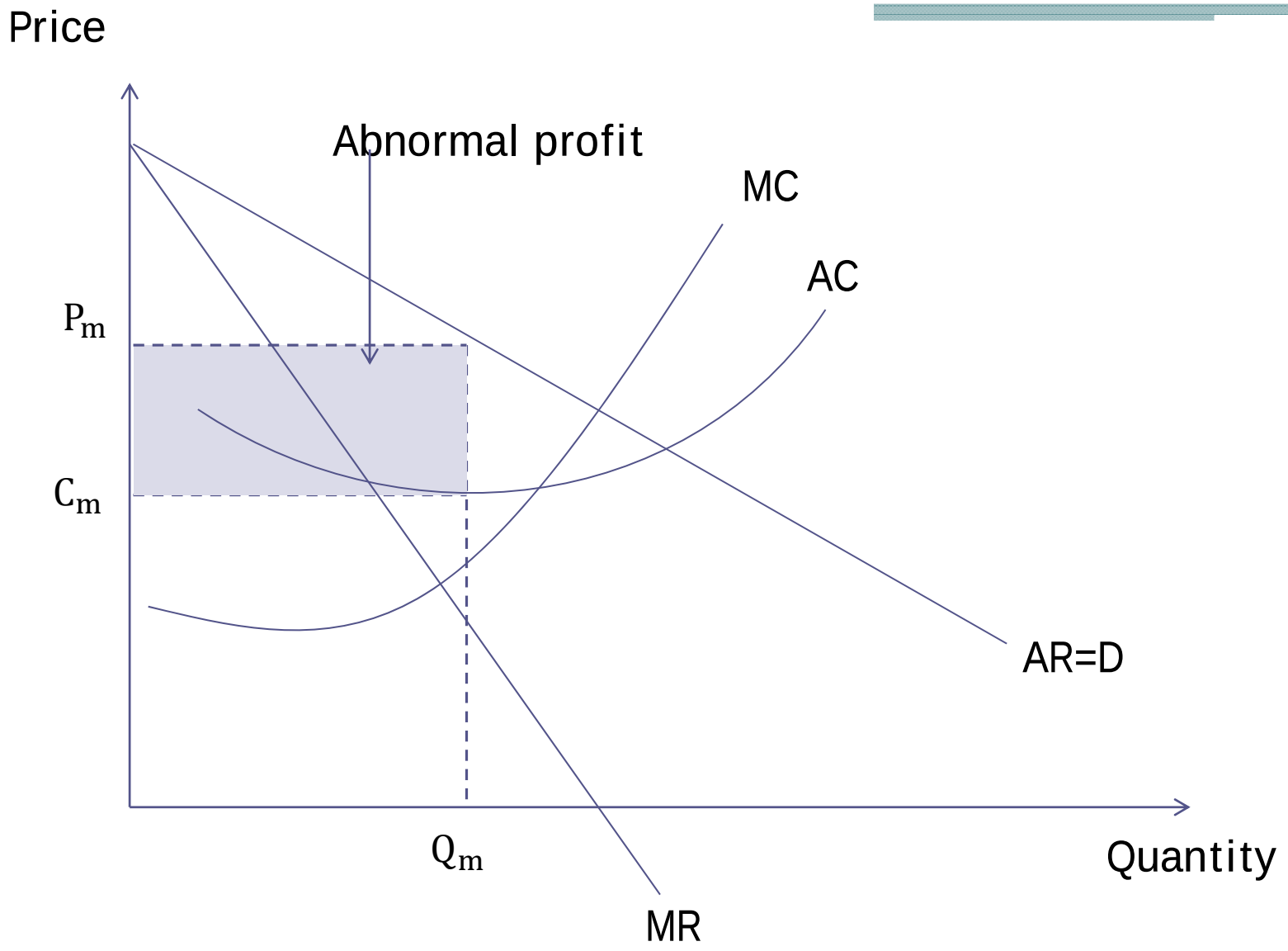
Patents and licenses

- A patents offers fixed-term legal protection for a business from competition, allowing it to enjoy abnormal profits for the lifetime of the patent
  - Are usually awarded for producers using new technology in order to act as an incentive for technological advancements

- Licenses intended to reduce harmful or unnecessary competition and to encourage investment into the particular service

The model

- Assume that the market is one of pure monopoly
- Price maker
- Able to determine the quantity that it sells but it is not able to do both as it has to operate with the existing demand condition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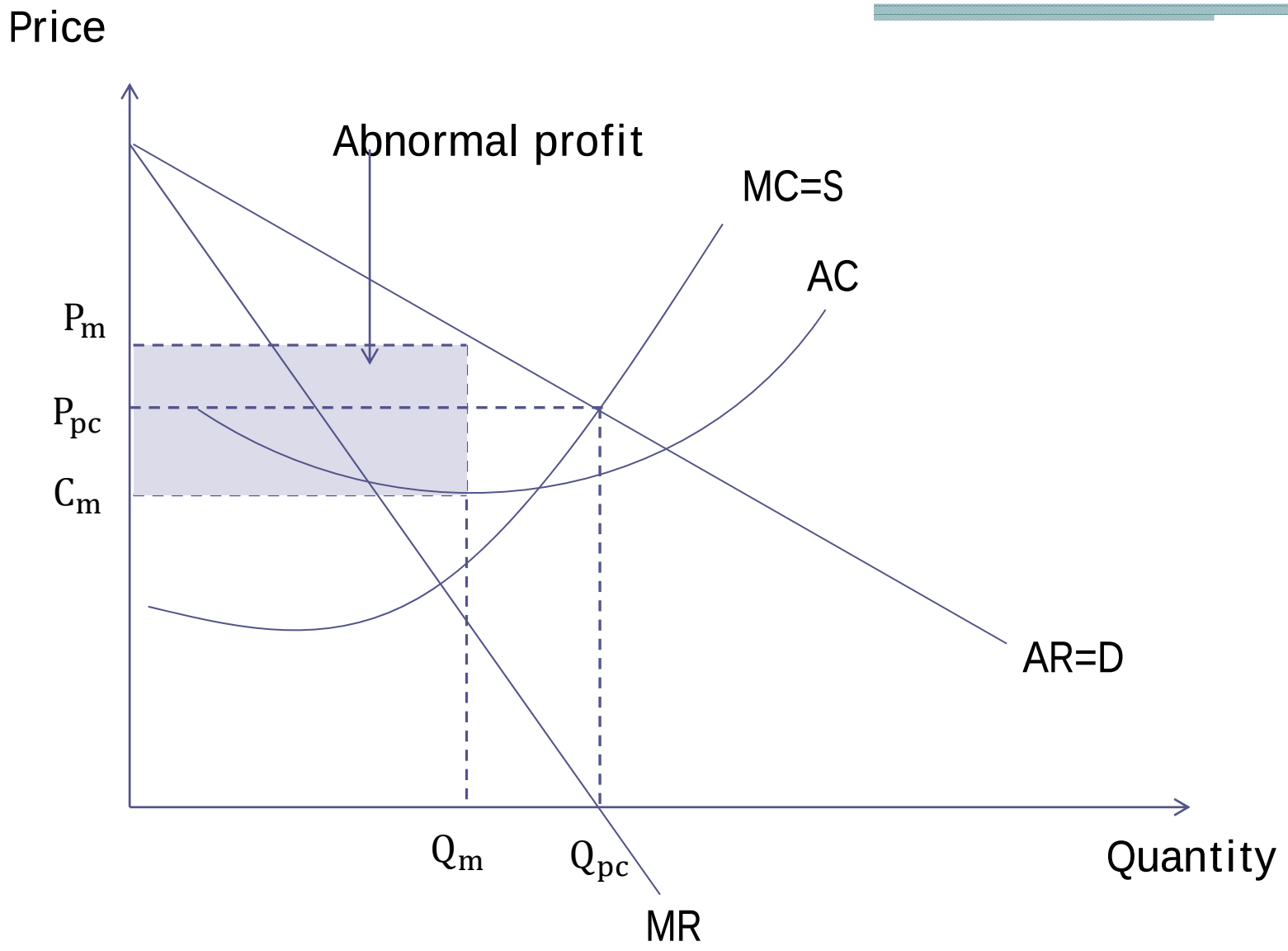
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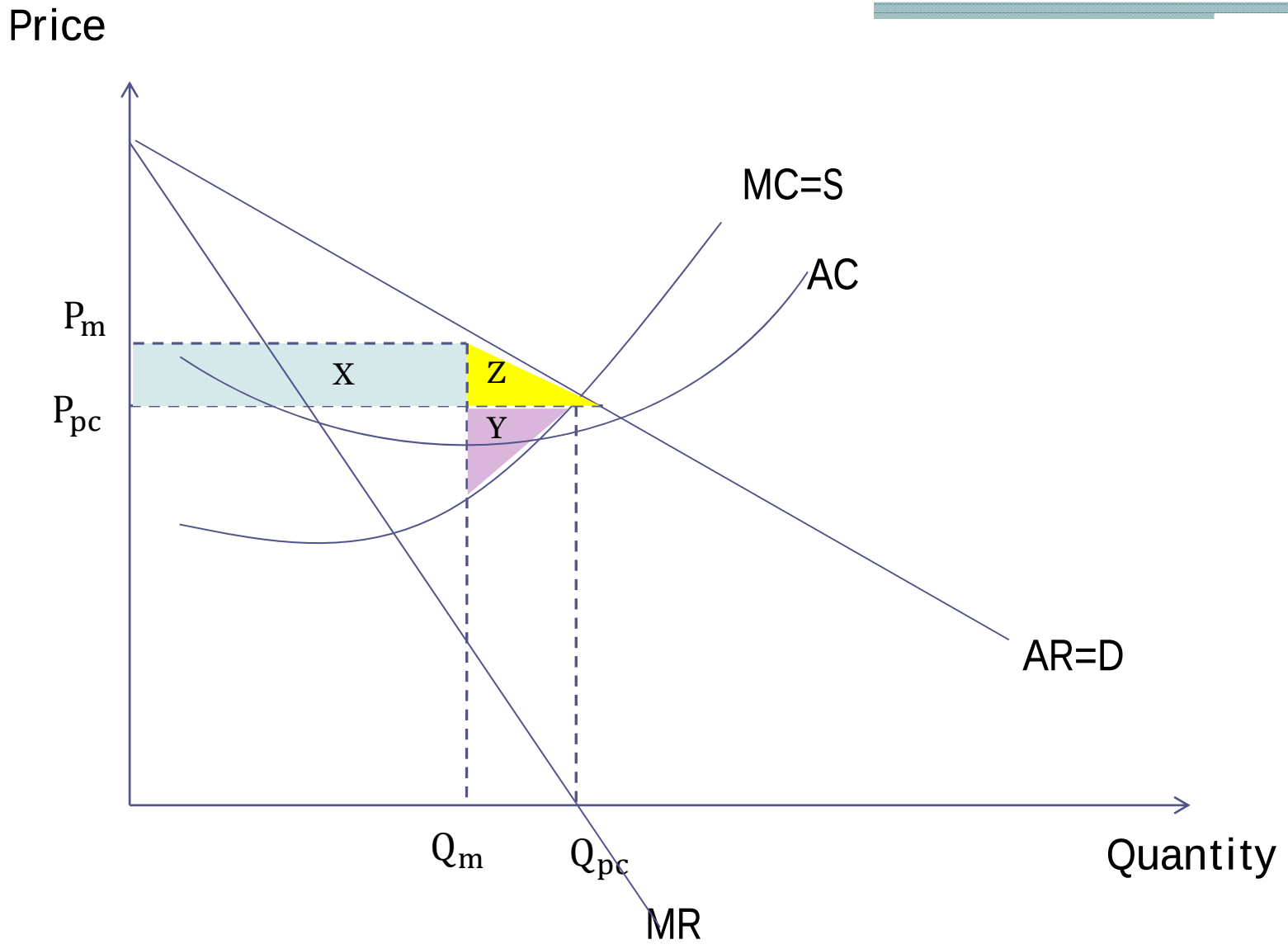
The level of efficiency of a market under monopoly conditions

- The producer is not operating at the lowest point on its average cost curve and so the market is not productively efficient

- The price is higher than the MC at that level of output and so the market is falling to achieve allocative efficiency as well
  - The producer is overcharging and so too little is being supplied and consumed from an efficiency perspective

- The reason that the monopoly is doing this
  - Increases its producer surplus and its welfare
  - Compared to perfect competition producer surplus has been increased by area X but reduced by Y
  - The cost borne by the consumers who see a reduction in their welfare of areas X and Z
  - Area Y and Z is known as the deadweight welfare loss of monopoly
  - The market is not Pareto efficient
  - A profit-maximizing monopoly is likely to lead to inefficient market outcomes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Disadvantages of monopolies

- Production inefficiencies
- Higher prices charges and lower output produced
- Reduces consumer surplus and is regressive
- Net welfare loss
- The market no longer regulates itself

Advantages of monopoly

- A higher level of expenditure on research and development
- Market size
- Wasteful competition
- Hotelling's law

Price discrimination

Three forms of price discrimination

- Perfect or first-degree price discrimination
- Second-degree price discrimination
- Third-degree price discrimination

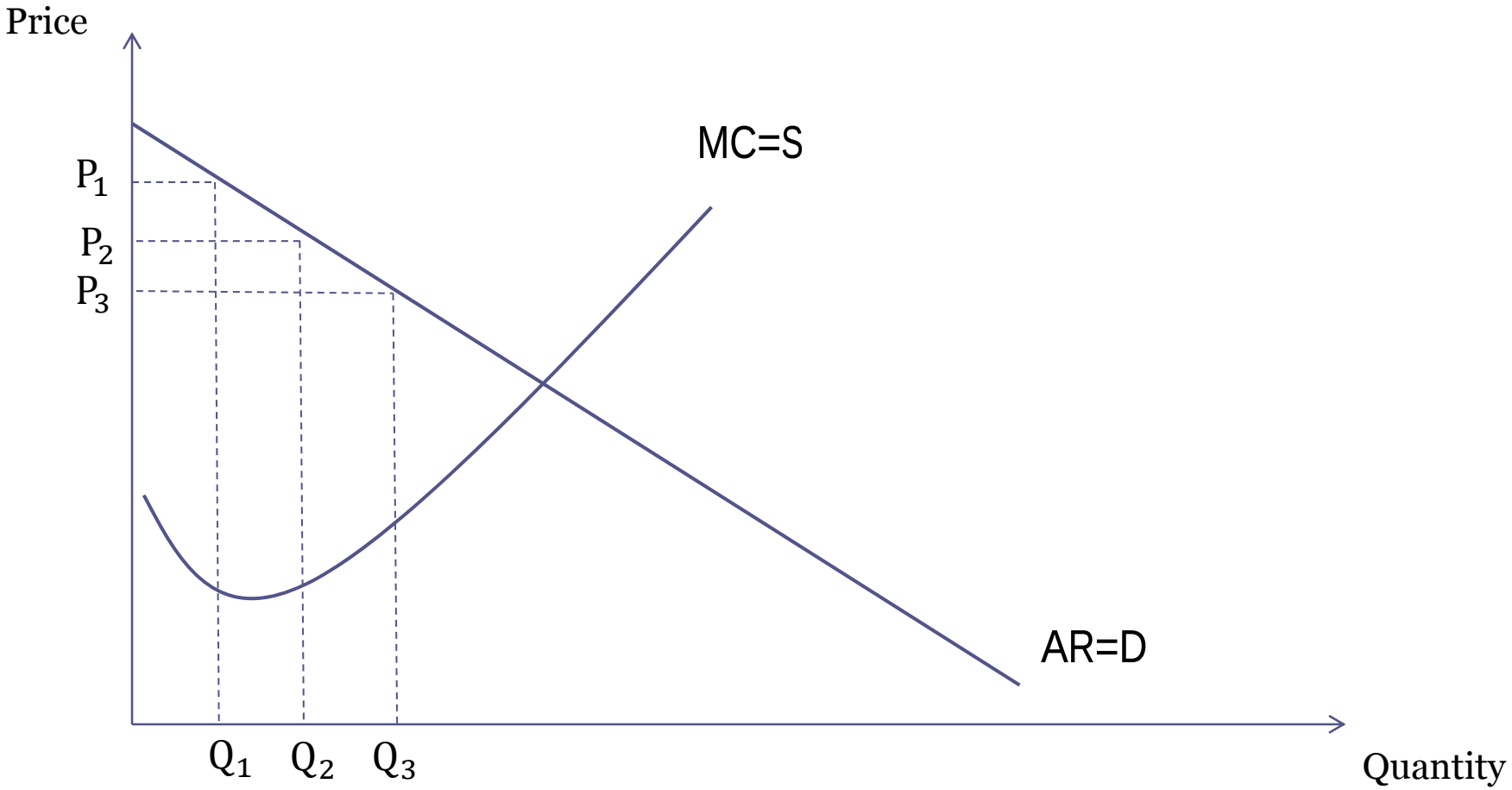
The purpose off using this pricing strategy is to increase profit beyond the maximum that a single price can achieve and to maximize producer welfare by transforming as much consumer surplus to producer surplus as possible

Perfect or first-degree price discrimination

- The strategy of selling each individual unit to the consumer who values it the most and is willing to pay the most of it

- Example – the private market for second-hand cars
  - The sellers of the cars negotiate with the buyers on an individual basis and will sell them to those who place the highest bid

Perfect price discrimination



Second-degree price discrimination

- Excess capacity pricing
- The strategy of charging late consumers a lower price in order to sell any remaining spare capacity and so earn some revenue from it

- Example Ticket for airlines and bus services

Assume that the MC is constant up until a certain level of output denoted Q_{fc} at which it then jumps to a new level

- The fixed costs are paid in order to establish the business even if there is no output supplied to the market
- The MC of the first unit – simply the VC associated with that unit
- Each subsequent unit of output may then cost a constant amount until full capacity is reached at Q_{fc}

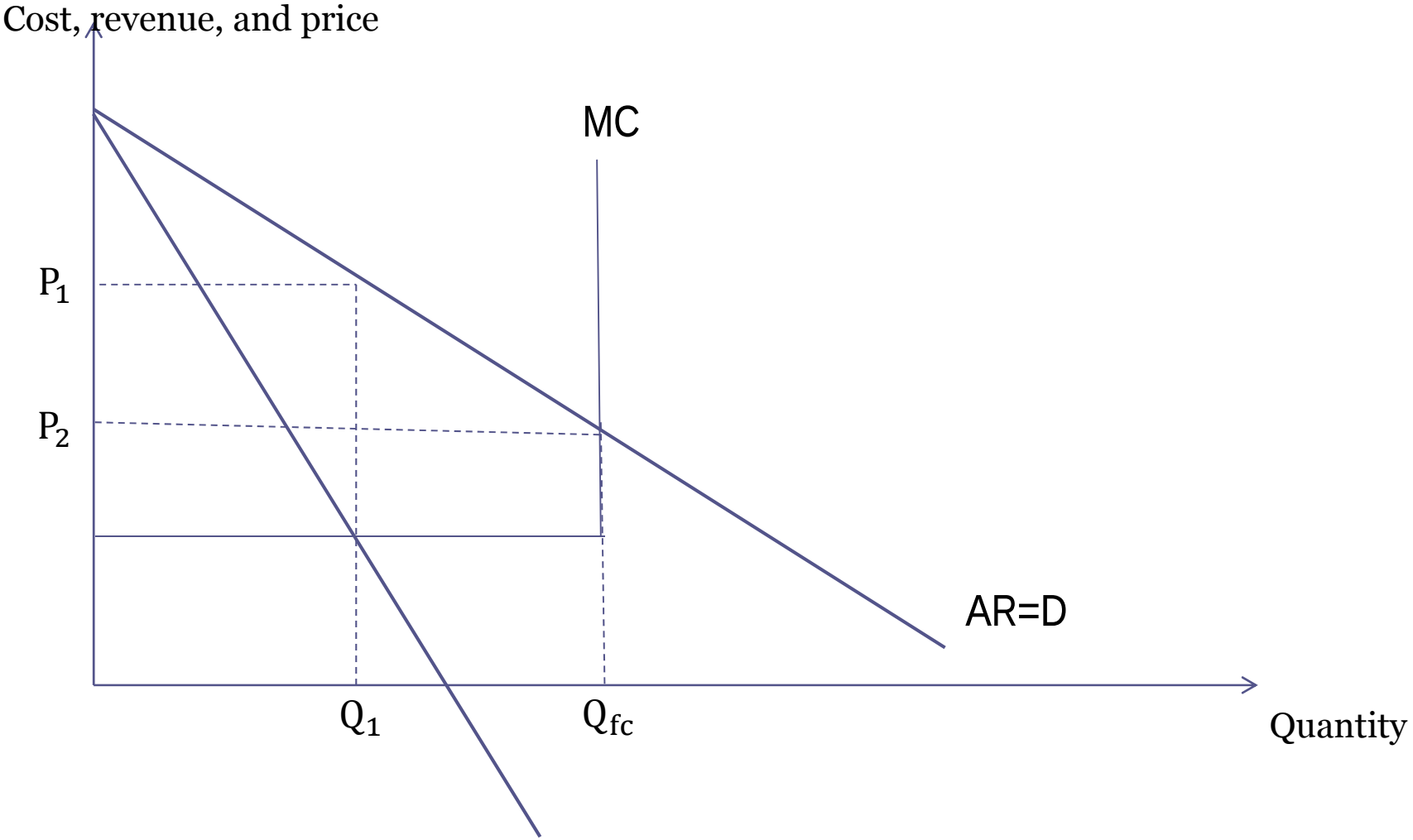
- The producer will maximize profits by selling Q_1 units at a price of P_1 leaving a level of excess capacity that is equal to $Q_{fc} - Q_1$, which will incur minimal extra costs to supply

- If the producer sells these units for a higher price than their MC it will be adding to its profits even if that price is less than P_1

- Consequently it will sell these for P_2 which is the maximum that consumers are willing to purchase them for as shown by the demand curve

- It is selling exactly the same product for different prices to different consumers and so is engaging in price discrimination

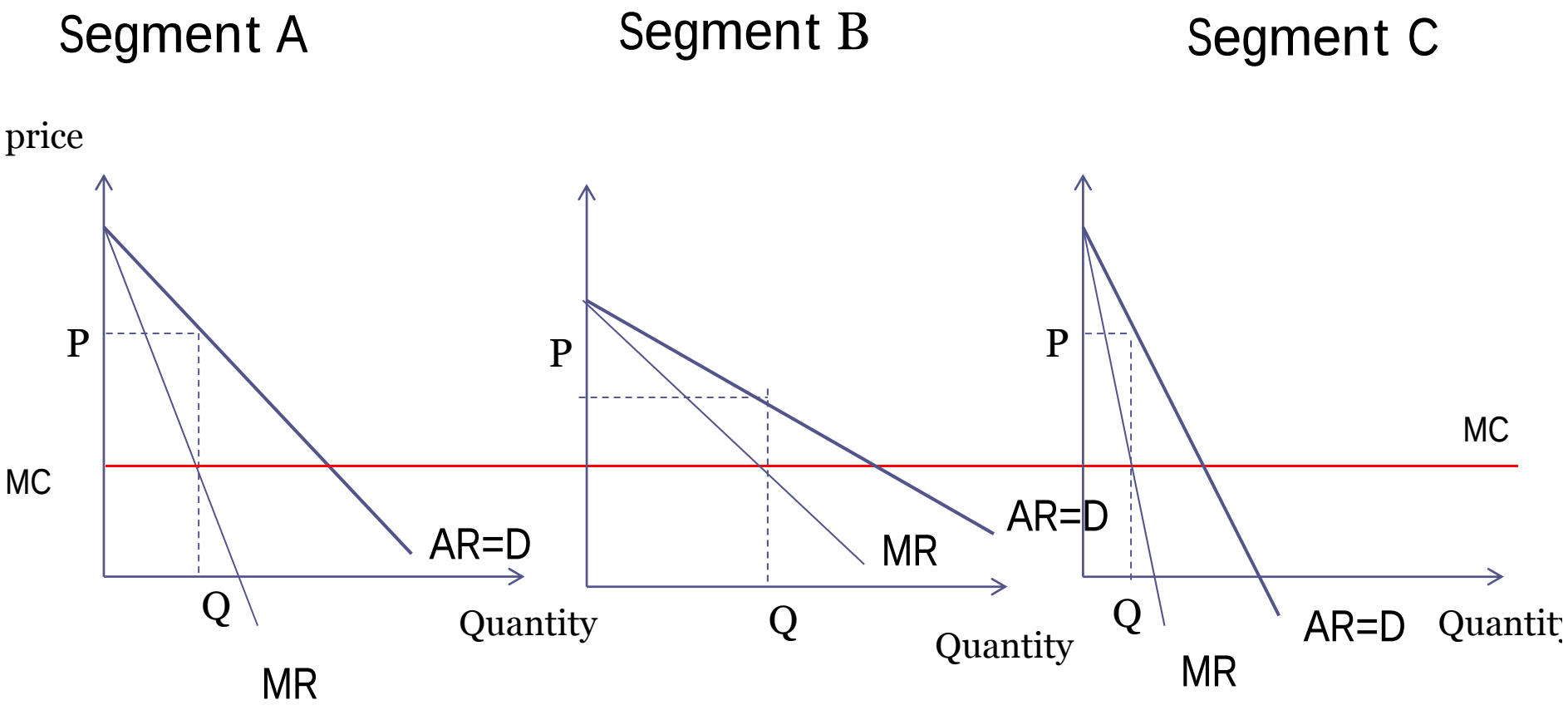
Second-degree price discrimination



Third degree price discrimination

- The producer is able to separate the market into different segments based upon the demand characteristics of the consumers in each and then to set optimal price in each segment

Third degree price discrimination



Two ways that a producer can divide the market into segments

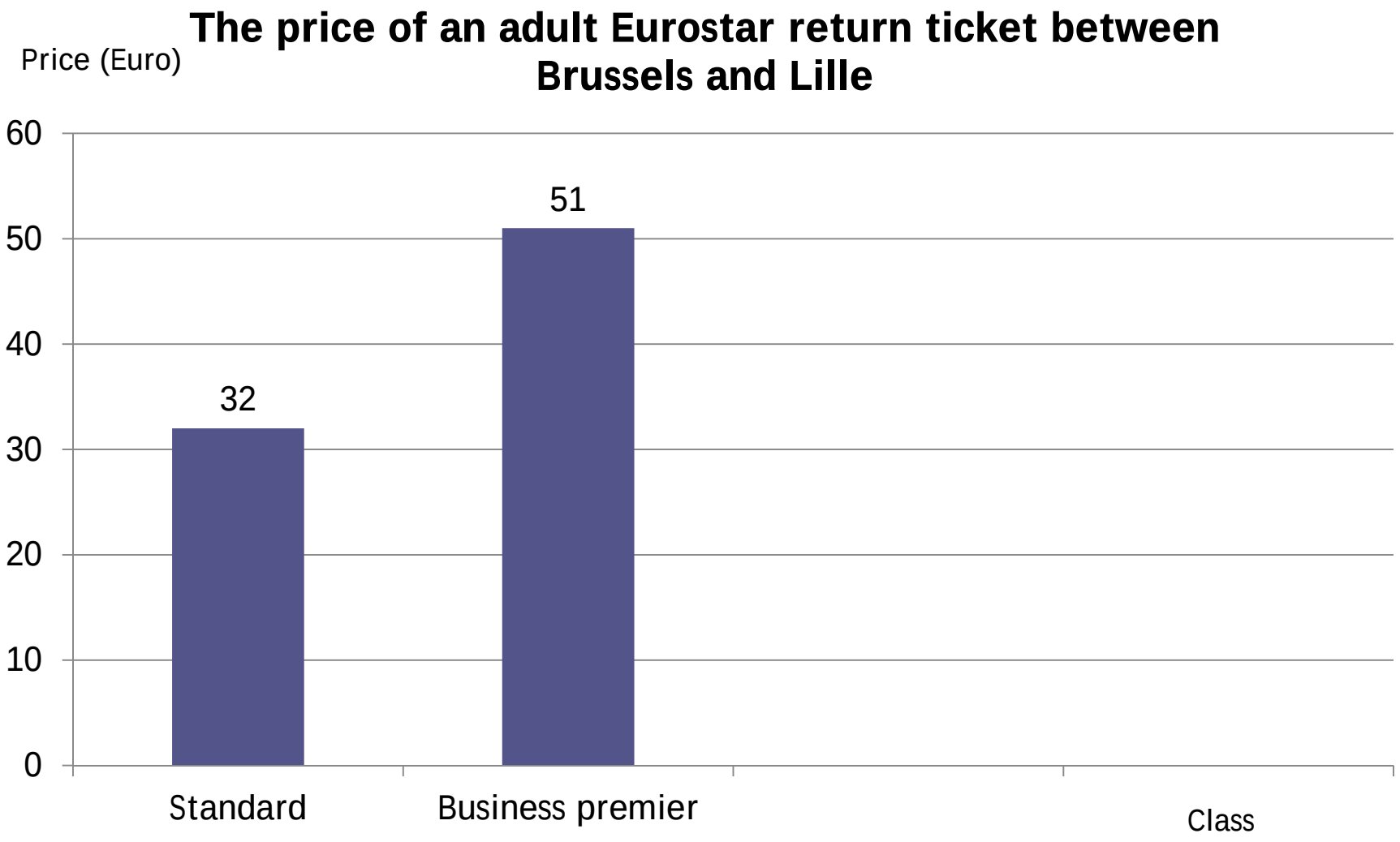
- Dividing the market into clear groups that then have to prove their identity
  - Example local bus companies divide their markets into segments that include children and old age pensioners
  - Both of these segments benefit from lower prices because the companies understand that they are likely to have a more price-elastic demand than adults of working age

- To employ a self-selection strategy
  - Company creates a set of conditions that are likely to cause the different segments to reveal themselves and then allow the consumers to select which segment they belong to
  - Example Airlines operating within Europe
  - To fly on Fridays and Mondays is considerably more expensive than to fly mid-week

Third degree price discrimination by Eurostar

- A marked difference in price between the two classes of tickets
- The operator is selling what is effectively the same product to different groups of consumers at different prices and is able to do so because of the different demand elasticities that exist in each segment
- The business segment are much more price inelastic than the standard segment

Eurostar tickets

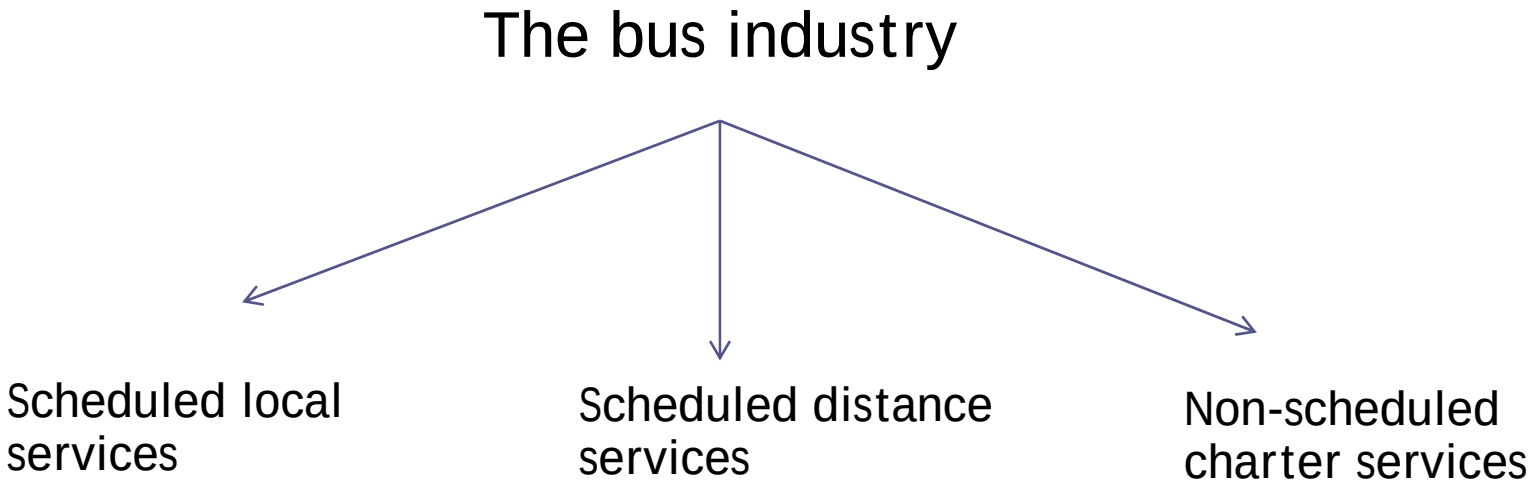


Public service vehicle operations in Britain

- The public service vehicle (bus and coach) industry remains by far the most dominant form of public transport in Great Britain

- The commission for integrated transport (2004) assets that in 2002/2003 some 4.4 billion passenger journeys were made by bus compared to 2 billion journeys on all rail modes in the same year

The structure of the bus industry



- The schedule services – the vehicles that stop at set places along predetermined routes at predetermined times
- Local services – within city or county boundaries
- Distance services – traverse such boundaries
- The non-scheduled charter services- privately hired for particular journeys

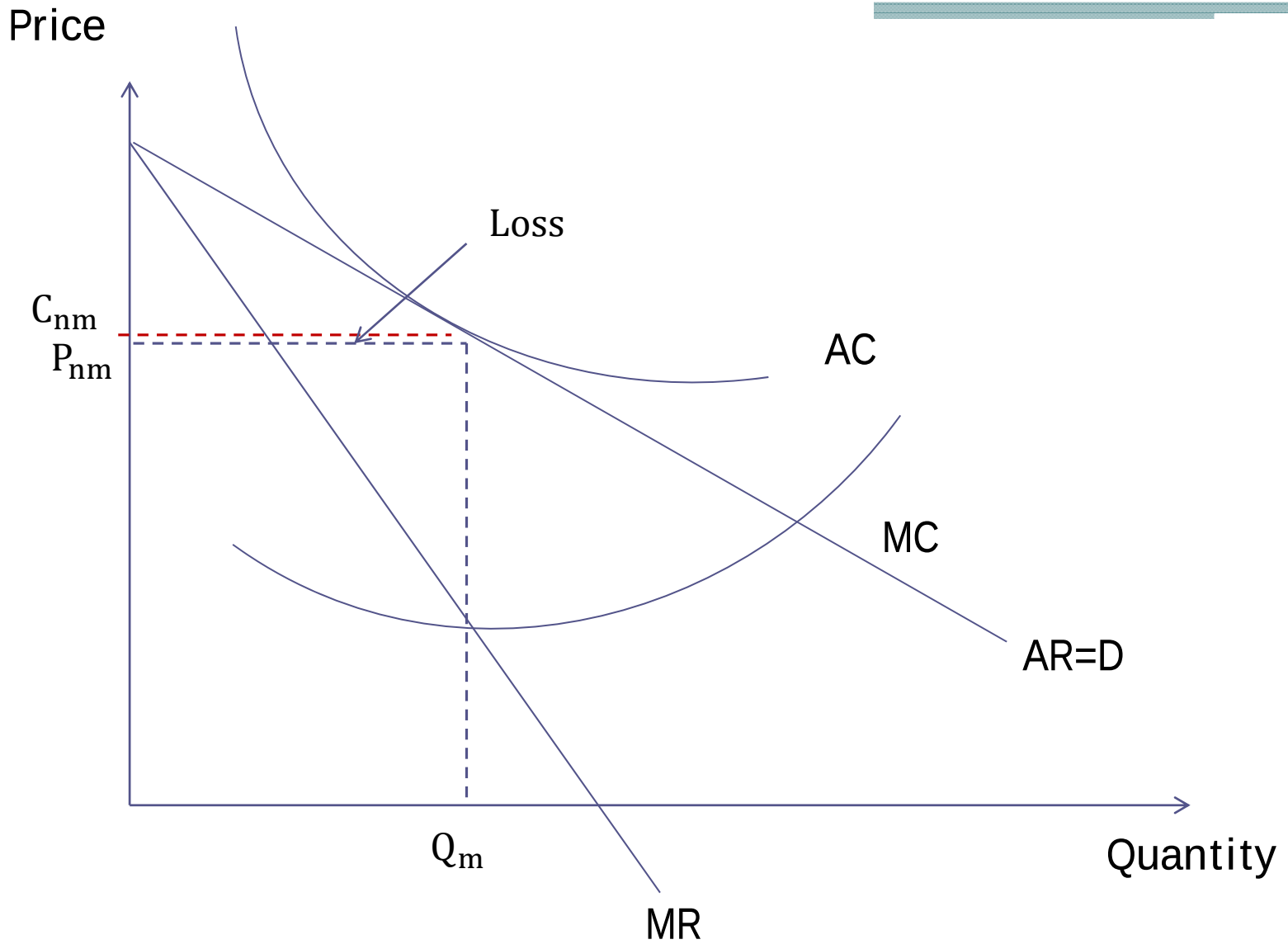
- 1800 private-sector bus operators and 17 local authority-owned companies in Great Britain
- The national industry was dominated by 5 large companies: First, Arriva, Stage Coach, Go-Ahead, and National Express, which together account for approximately 80 % of employment and 70% of the market turnover
- They are each concentrated in different local market
- Local markets are highly monopolized

5 particular barriers to entry

- Supply side economies of scale
- Demand side economies of scale
- Competitive responsiveness
- Lack of service differentiation
- Reputation

Natural monopolies

- One producer
- Markets in which the capital costs are so high that the producer needs to receive all of the market revenue just to stay in operation
- Any competition within such a market would cause all producers to fail to make normal profit and so would lead to all producers being forced out of the market and there being a complete absence of supply
- Need government subsidisation
- Example railway


Price
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Reference

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- Cowie J. (2010). The Economics of Transport. Routledge.