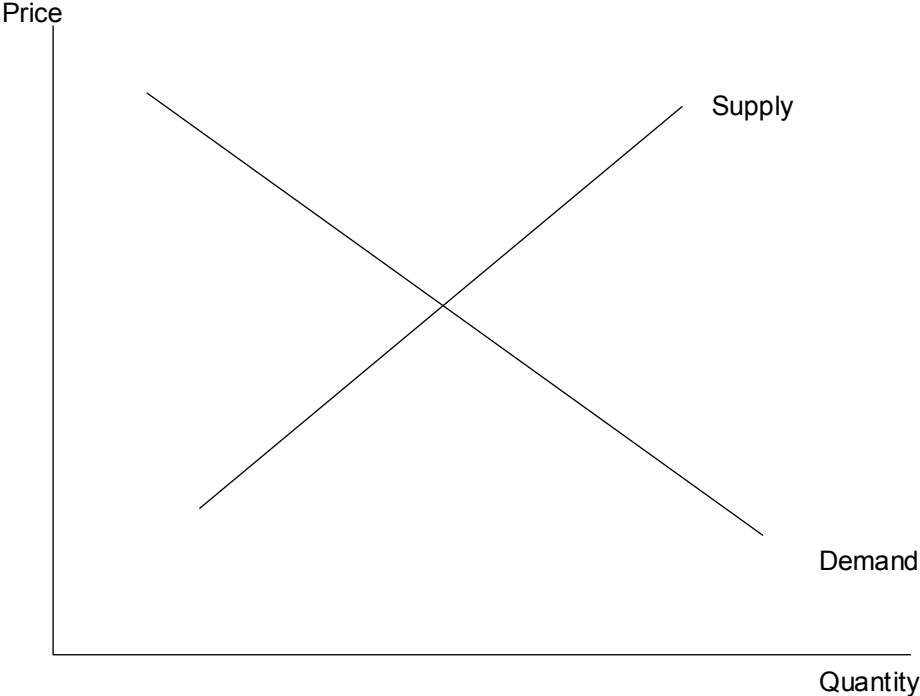


PART I - COMPETITIVE MARKETS



Review the basic concepts underlying supply and demand functions

DEMAND CONCEPTS:

THE CONCEPT OF UTILITY

DIMINISHING MARGINAL UTILITY

THE AREA UNDER THE DEMAND CURVE

OWN-PRICE ELASTICITY OF DEMAND

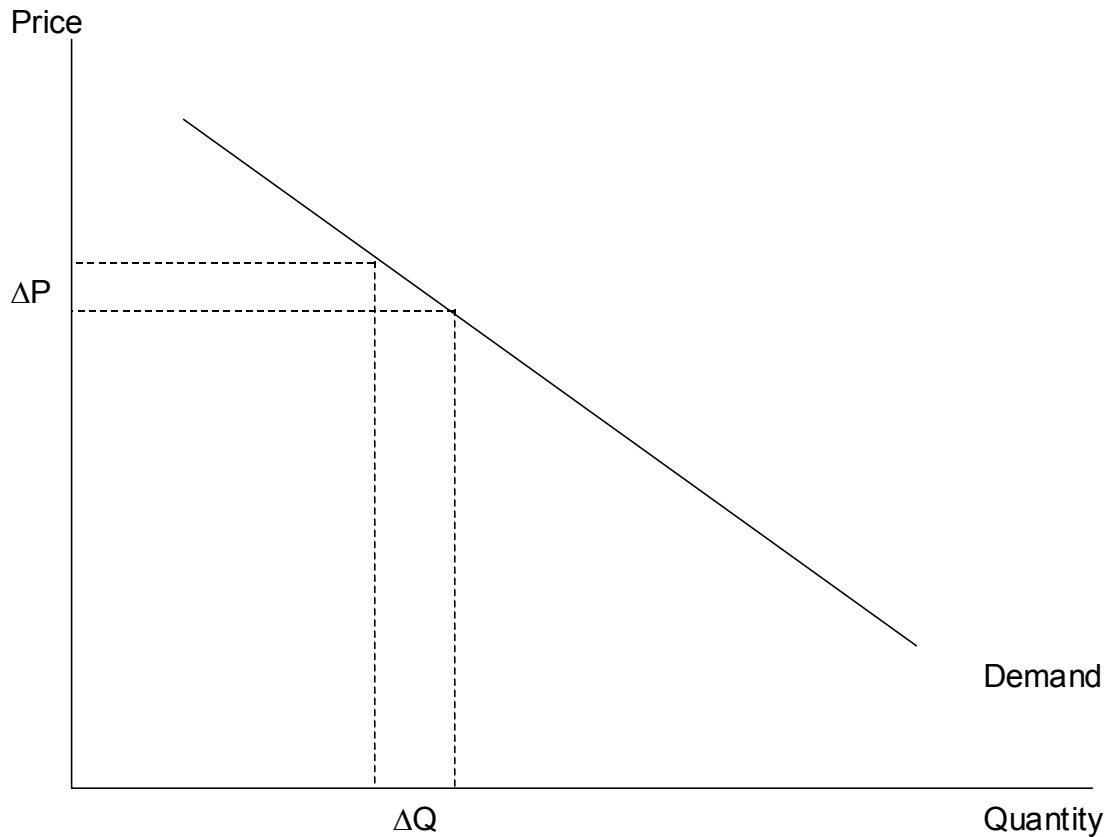
$$\frac{\frac{\Delta Q}{Q}}{\frac{\Delta P}{P}} = \varepsilon$$

DETERMINANTS:

SUBSTITUTES (IMPORTANT)

NECESSITY VS. DISCRETIONARY

SHARE OF BUDGET



Own Price Elasticity of Demand

$$\text{Own Price Elasticity} = \varepsilon = \frac{\Delta Q / Q}{\Delta P / P}$$

Elasticity shows how "sensitive" quantity demanded is to price changes.

$\varepsilon = 1$; implies unitary elasticity

$\varepsilon > 1$; implies elastic demand

$\varepsilon < 1$; implies inelastic demand

COST CONCEPTS

ACCOUNTING VERSUS ECONOMIC COSTS

SHORT RUN COSTS

FIXED AND SUNK

VARIABLE

MARGINAL

DIMINISHING RETURNS TO THE FIXED FACTOR (THE EXPLANATION FOR THE CONVEX SHORT-RUN ATC CURVE)

LONG RUN COSTS

AN ENVELOPE OF SHORT-RUN CURVES

ECONOMIES AND DISECONOMIES OF SCALE (THE EXPLANATION FOR THE CONVEX LONG-RUN AVERAGE COST CURVE)

ECONOMIES OF SCALE (MORE LATER)

PRODUCT SPECIFIC LEVEL

PLANT LEVEL

MULTI-PLANT LEVEL

FIRM LEVEL

DISECONOMIES OF SCALE

PROFIT MAXIMIZATION UNDER PERFECT COMPETITION:

ASSUMPTIONS:

MANY SELLERS

MANY BUYERS

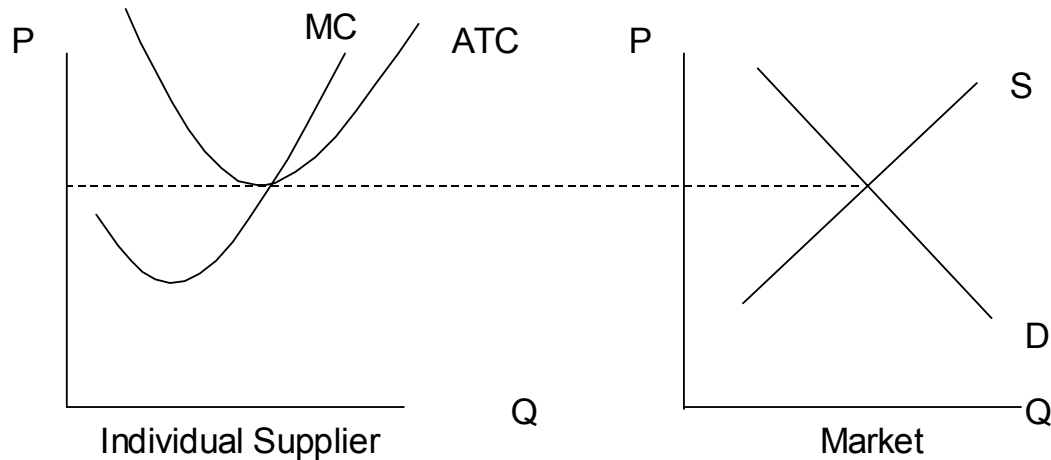
HOMOGENOUS PRODUCTS

EASY ENTRY AND EXIT

SYMMETRICAL INFORMATION BETWEEN BUYER
AND SELLER

LOW TRANSACTION COSTS

- search costs
- negotiation costs
- policing costs
- enforcement costs



OUTCOME OF COMPETITIVE MARKET

1) Allocative Efficiency

- $P = \text{Value to society of the last unit consumed}$
- $MC = \text{Cost to society of the last unit produced}$
- $P = MC$ implies every unit whose value exceeds its cost is produced and consumed

2) Technical (or Productive) Efficiency

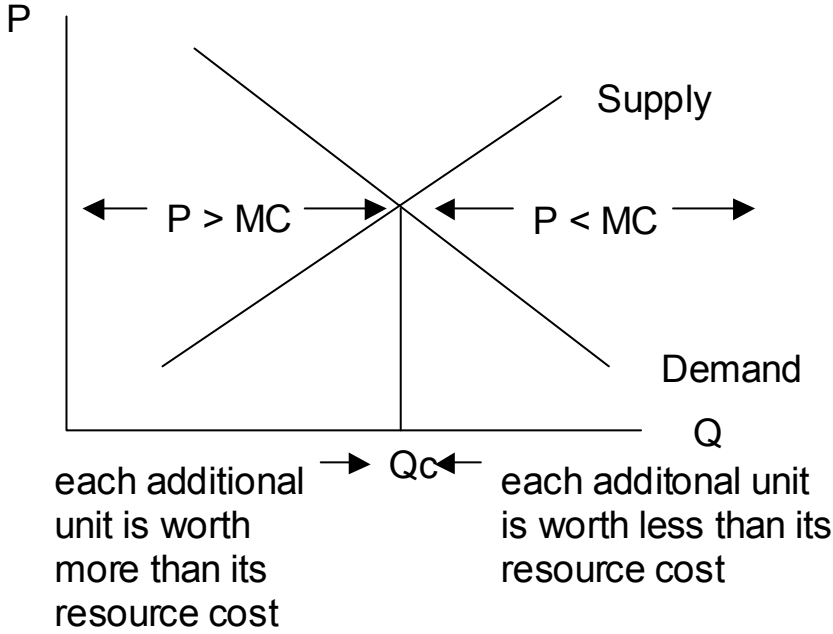
- All firms produce at the minimum point on their ATC curves (lowest average unit costs are achieved)

3) "Equity"

- $P = ATC$ implies that the supplier is not obtaining economic profits (i.e., economic rent)

The concept of Allocative Efficiency

Produce all units that add more to benefits than to costs.



PART II - MARKET FAILURE

A MARKET FAILURES (market fails to automatically achieve allocative or technical efficiency)

- 1 Monopoly
- 2 Informational asymmetries
- 3 Externalities
- 4 Public goods
 - a simultaneous production and consumption
 - b consumption not zero sum
 - c marginal social cost is low
- 5 Common property resources

B DYNAMIC INCAPACITY

- 1 Micro instability
- 2 Macro instability
- 3 Dynamic incapacity

C ETHICAL CRITERIA

- 1 Equity
- 2 Merit and demerit goods

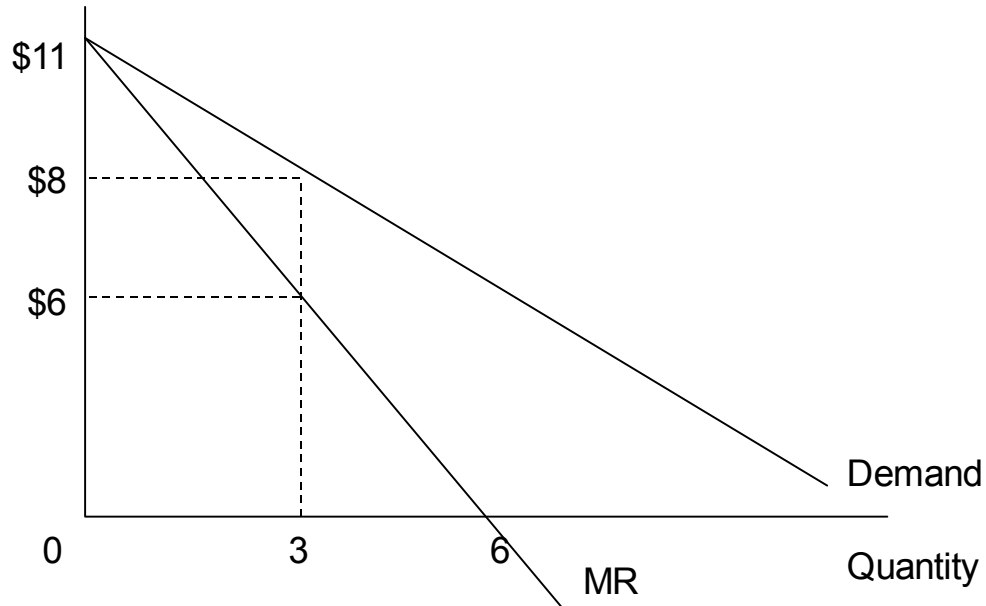
D FAILURE TO ACHIEVE NON-ECONOMIC GOALS

- 1 Political goals
- 2 Cultural goals

A.1. Monopoly

For the monopolist $MR < Price$ after the first unit.

Price (\$)	Quantity Demanded	Total Revenue	Marginal Revenue
11	0	0	
10	1	10	10
9	2	18	8
8	3	24	6
7	4	28	4
6	5	30	2
5	6	30	0
4	7	28	-2

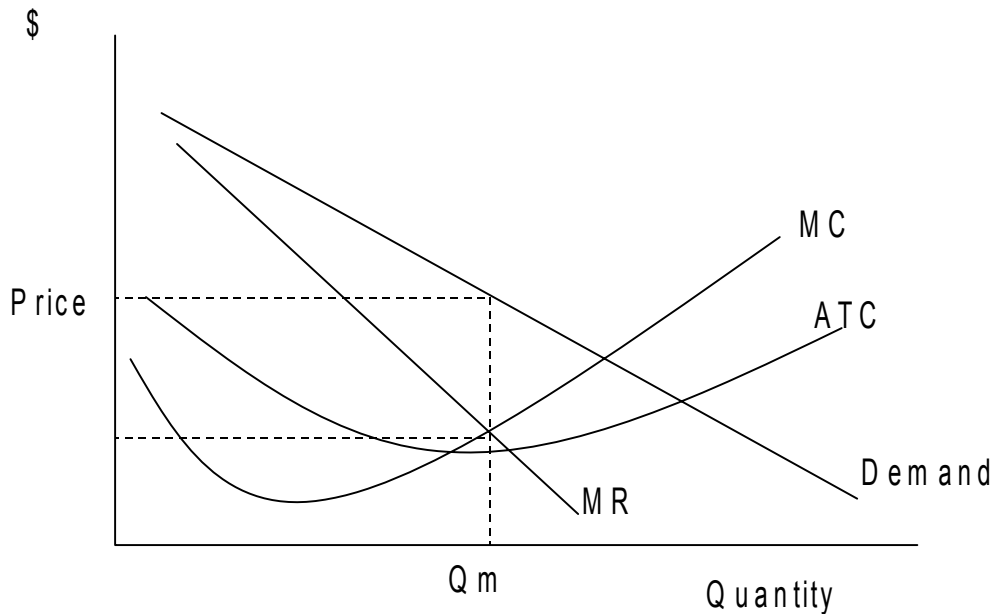


The monopolist profit maximizes by setting $MR = MC$

THE INEFFICIENCY OF MONOPOLY

- Allocative efficiency
- Productive efficiency
- Equity

- ALLOCATIVE EFFICIENCY



Marginal Revenue < Price

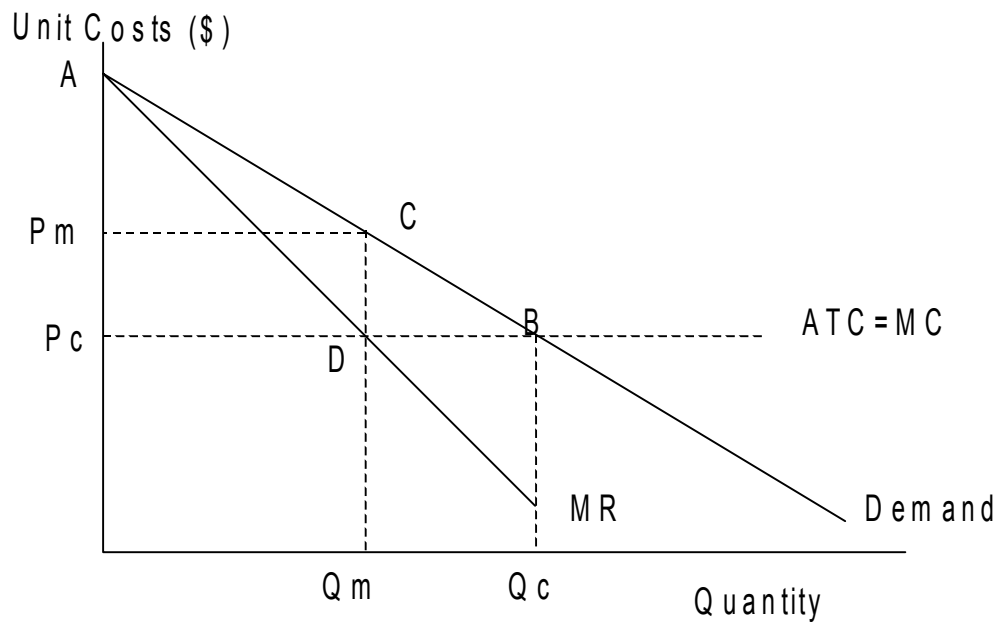
Marginal Revenue = Marginal Cost (profit maximization)

Therefore: Marginal Cost < Price; or: Price > Marginal Cost

ALLOCATIVE EFFICIENCY IS NOT ACHIEVED!

Graphic representation of the allocative inefficiency of Monopoly

Assume MC is constant (i.e., doesn't change) over the relevant range of output.



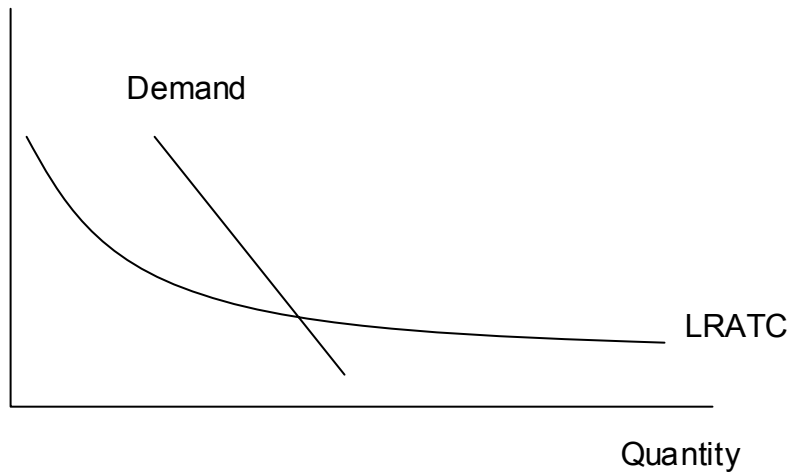
Under perfect competition consumer surplus is PcAB.

What happens to this surplus under monopoly? The consumers still get a consumer surplus of PmAC. The monopolist gets profits of PcPmCD. Who gets DCB? NOBODY!

This is the “deadweight loss” of monopoly.

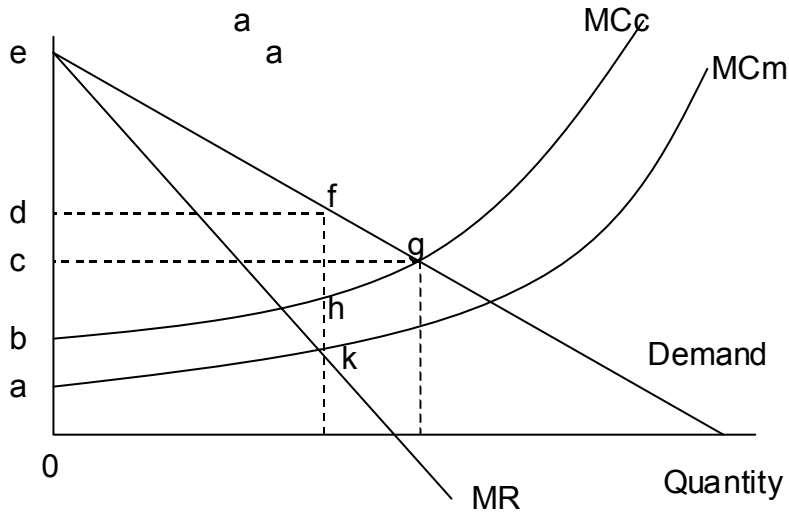
Allocative versus Technical Efficiency

Natural monopoly



There is only "room" for one firm in the industry.

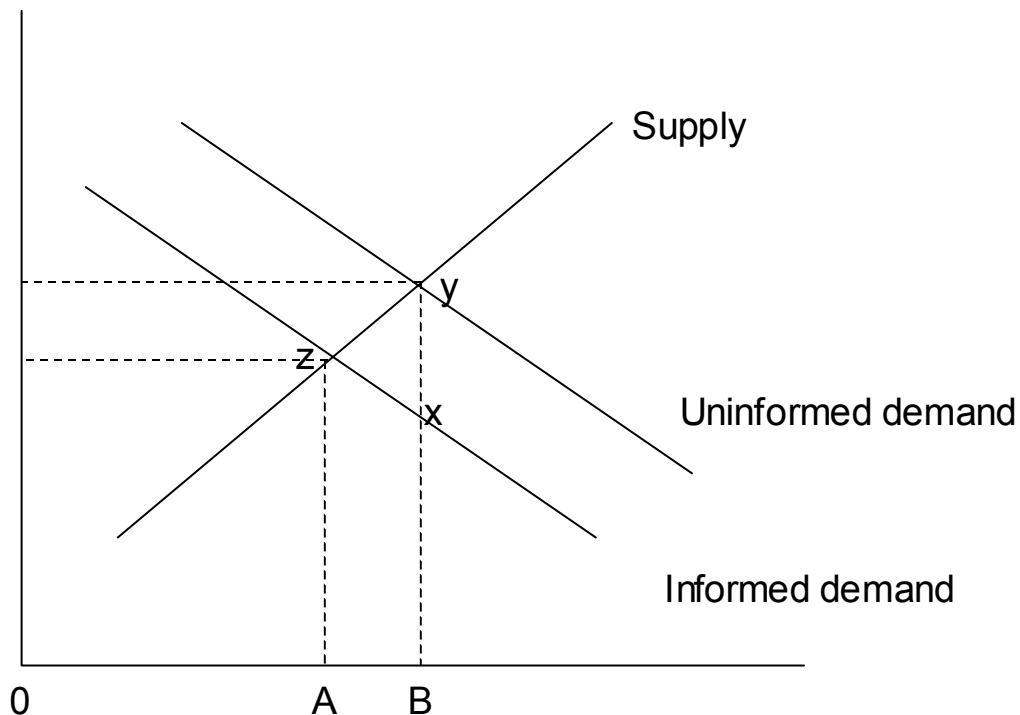
Here the monopolist enjoys lower costs than can be achieved in a perfectly competitive market.



Under perfect competition, total surplus is beg . Consumer surplus is ceg , producer surplus is bcg . With monopoly, total surplus is $aefk$. The area hfg is lost, but the area $abhk$ is added.

It is likely that the monopolist will in fact have higher costs than the perfect competitor because of rent seeking (or rent protection) behaviour that raises costs.

A.2. Informational Asymmetries



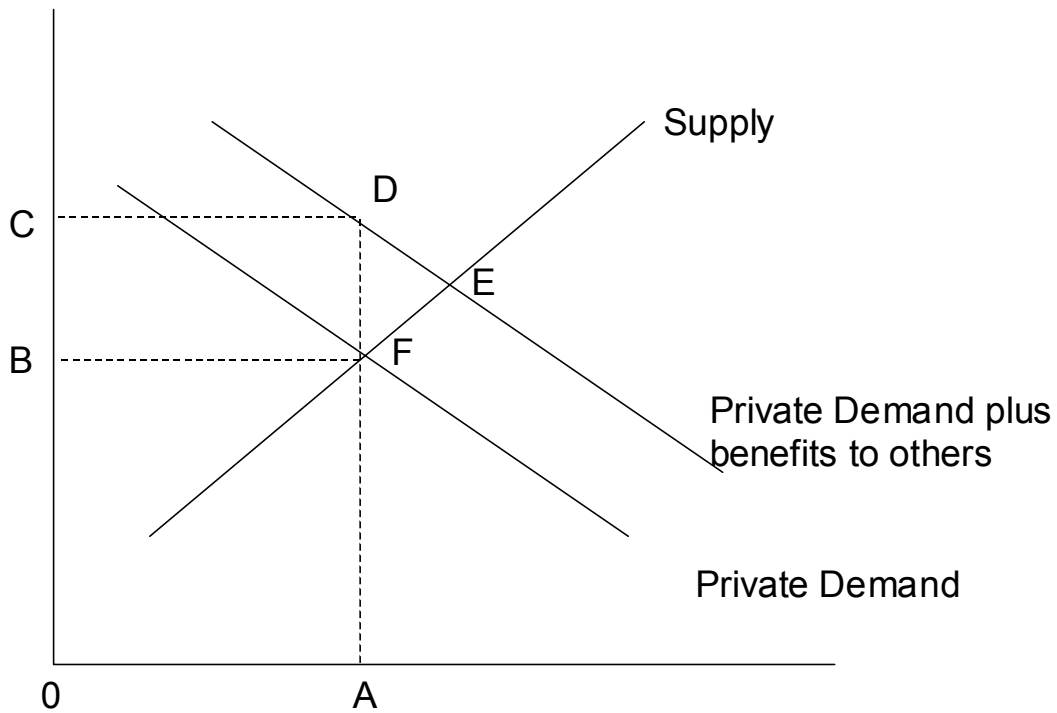
Assume this is the market for cigarettes during the 1950s when tobacco companies denied that smoking caused health problems.

"Uninformed demand" is the demand for cigarettes by people unaware of the health hazards.

"Informed demand" is what demand would be if all people were informed of the health hazards

Each unit produced and consumed beyond "A" involves marginal cost > marginal benefit. The information problem has caused a reduction in the surplus of xyz.

A. 3 Externalities



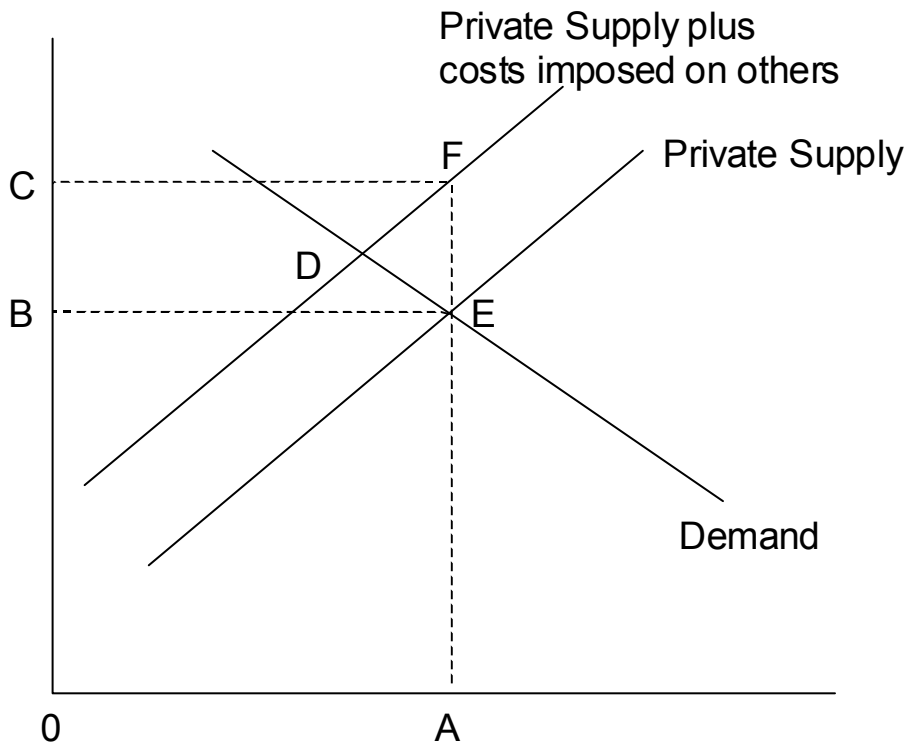
Example of a positive Spillover (externality)

Third parties receive a benefit of DF

In a competitive market, production and consumption occurs where Private Demand = Supply.

BUT, at quantity 0A, Social benefit of the last unit (0C) is greater than the Social cost of the last unit (0B). Society is forgoing the net benefits FDE!

The market has "failed" to achieve allocative efficiency.



Example of a negative Spillover (externality)

Third parties suffer costs of EF

In a competitive market, production and consumption occurs where Private Supply = Demand.

BUT, at quantity 0A, Social cost of the last unit (0C) is greater than the Social benefit of the last unit (0B). Society is reducing net benefits by DFE! Too much is produced and consumed.

The market has "failed" to achieve allocative efficiency.

A MARKET FAILURES (continued)

3 Public goods

a simultaneous production and consumption

b consumption not zero sum

c marginal social cost is low

4 Common property resources

B DYNAMIC INCAPACITY

1 Micro instability

2 Macro instability

3 Dynamic incapacity

B ETHICAL CRITERIA

1 Equity

2 Merit and demerit goods

C FAILURE TO ACHIEVE NON-ECONOMIC GOALS

1 Political goals

2 Cultural goals

PART III - REVIEW OF INDUSTRIAL ORGANIZATION CONCEPTS

The Structure/Conduct/Performance Model

BASIC SUPPLY AND DEMAND CONDITIONS

MARKET STRUCTURE

1. Number of sellers
2. Number of buyers
3. Barriers to entry
4. Product differentiation

MARKET CONDUCT

1. Price and quantity determination
2. Product strategy and advertising
3. etc., etc. etc.

MARKET PERFORMANCE

1. Allocative efficiency
2. Technical (productive) efficiency
3. Dynamic efficiency (progressiveness)
4. Equity

Basic conditions, structure, conduct and performance are influenced by public policy

MARKET STRUCTURE: Number of Sellers

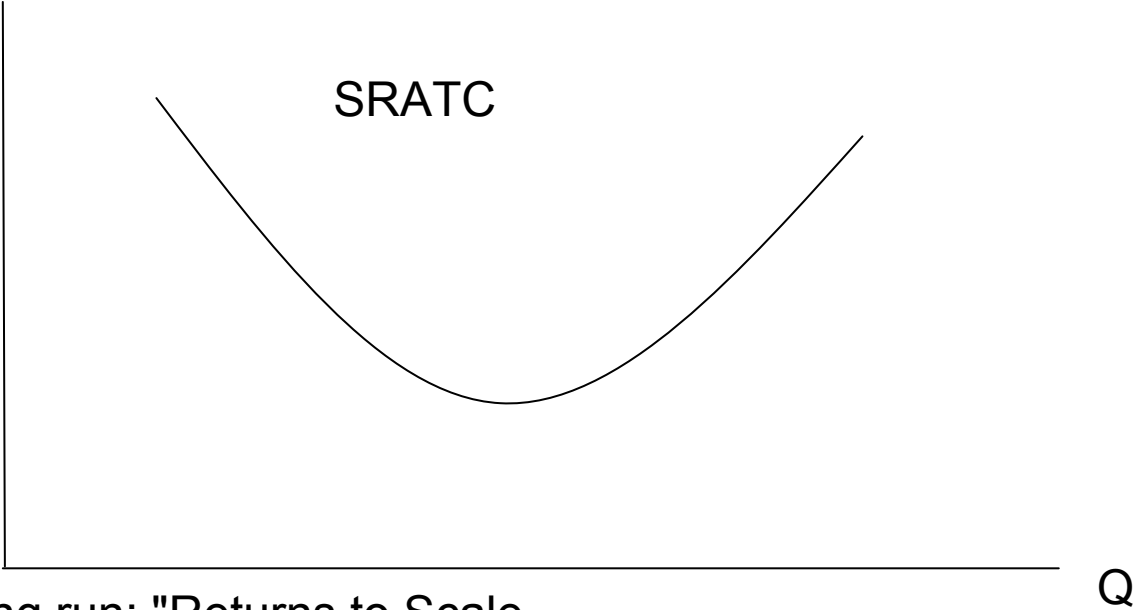
A Measurement

- 1 Concentration ratios (CR4)
- 2 Herfindahl index

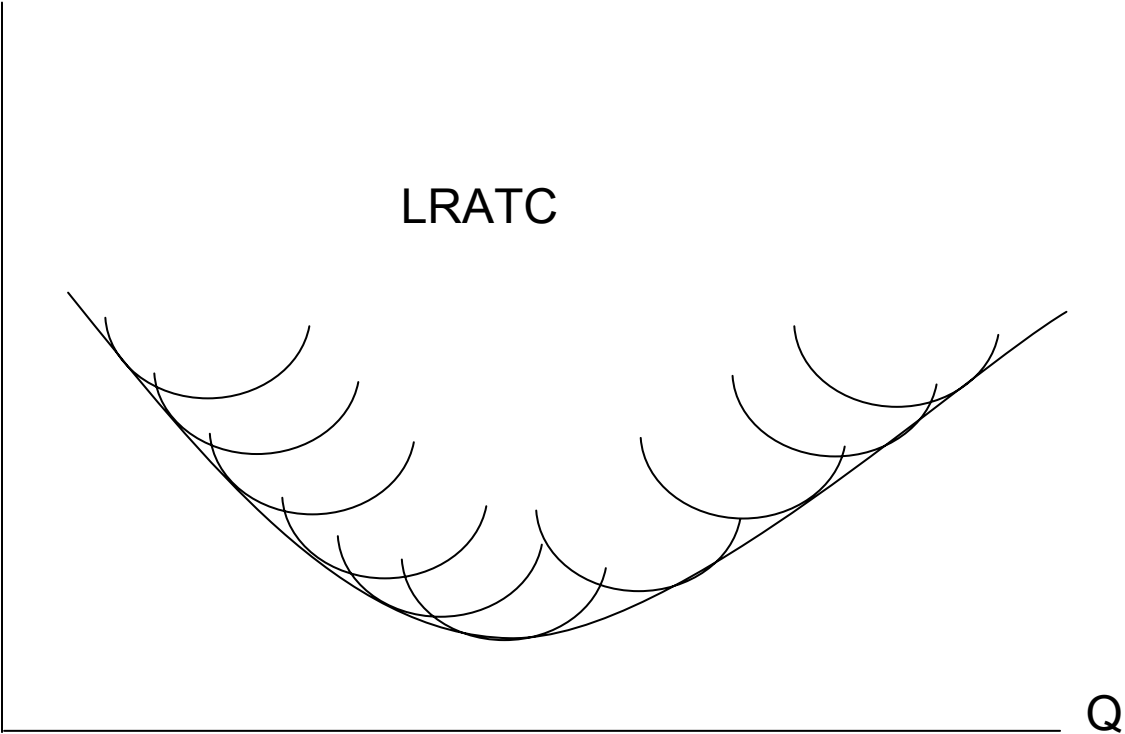
B Causes of Concentration

- 1 Economies
 - a Scale economies: plant level
 - b Scale economies: firm level
 - c Product specific economies
 - d Economies of scope
 - e "Pecuniary" economies
- 2 Other factors
 - a Luck
 - b Public policy
 - c Strategic behaviour
 - d Barriers to entry
 - e Merger strategies

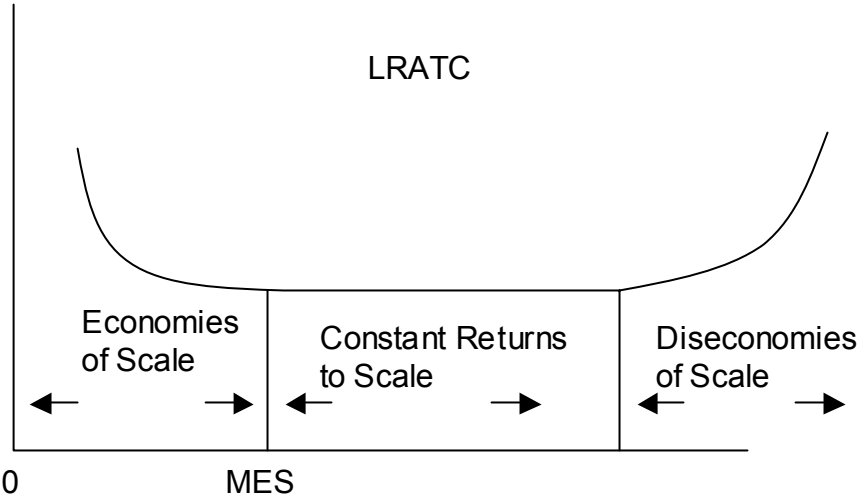
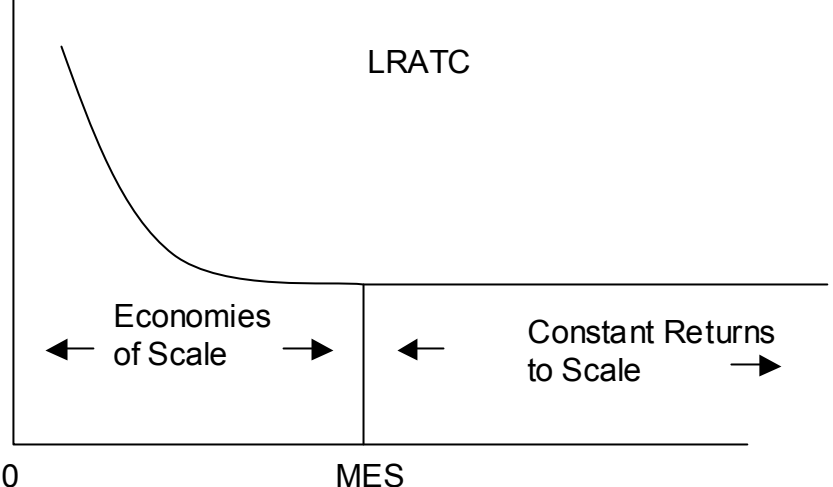
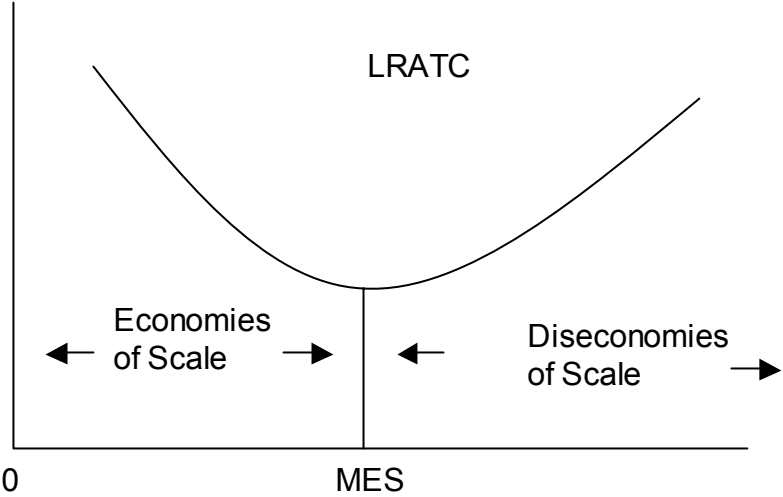
SCALE ECONOMIES: REMEMBER IT IS A LONG-RUN CONCEPT
Short run: "Law of Diminishing Returns to the Fixed Factor



Long run: "Returns to Scale



THE SCALE CURVE CAN TAKE VARIOUS SHAPES



MARKET STRUCTURE: Barriers to Entry

A Definition: A barrier exists when established firms can raise price above cost without inducing entry (i.e., they can earn rents).

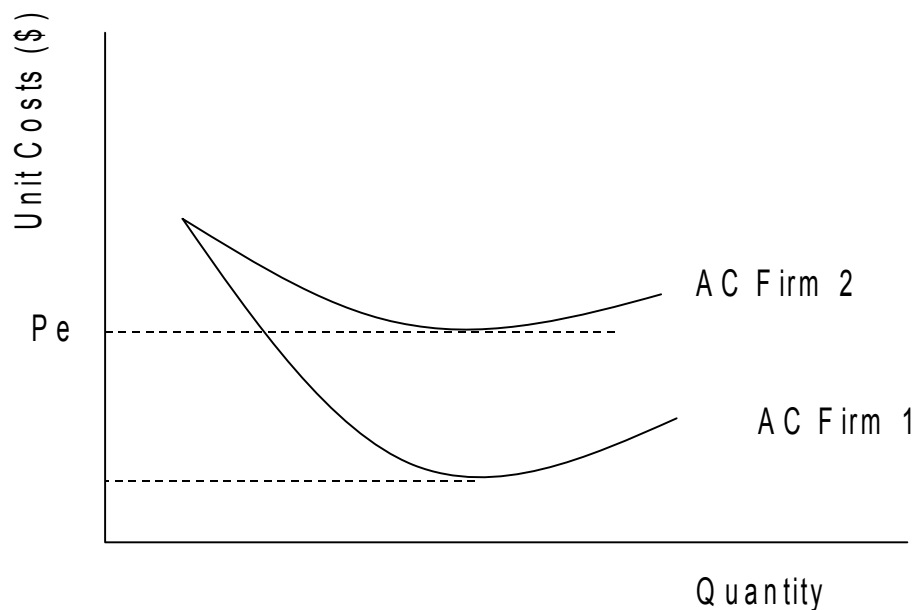
B Necessary conditions

- 1 Sunk costs
- 2 Disadvantage vis a vis incumbents

C Types

- 1 Absolute cost
- 2 Product differentiation
- 3 Scale

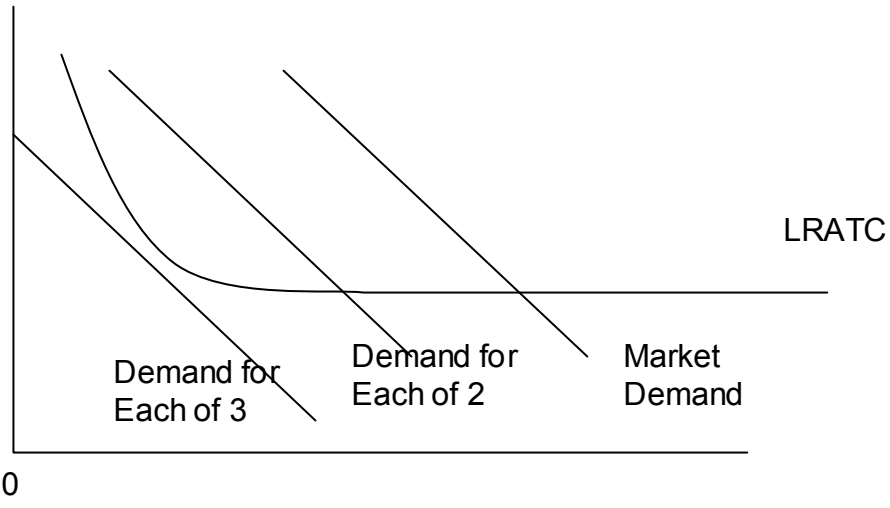
ABSOLUTE COST BARRIER



Firm 1 is the incumbent (i.e., the firm already in the market)
Firm 2 is the potential entrant.

Because Firm 1 has lower costs it can raise price just below P_e (Firm 2's minimum AC), earn economic profits, and forestall entry by Firm 2.

SCALE BARRIER



MARKET STRUCTURE: PRODUCT DIFFERENTIATION

A Measurement

- 1 Own price elasticity of demand: $(dq/Q)/(dp/P)$
- 2 Cross price elasticity of demand: $(dq_x/Q_x)/(dp_y/P_y)$
- 3 Proxy measures: Advertising/Sales

MARKET CONDUCT: Ranges from perfectly independent to perfectly interdependent

A Independent

- 1 Perfect competition
- 2 Perfect monopoly

B Interdependent

- 1 Formal models
 - a Cournot
 - b Bertrand
 - c Kinked demand
 - d Numerous game theory models
- 2 Types
 - a Predation
 - b Rivalry
 - c Price leadership
 - d Tacit collusion
 - e Explicit collusion (cartel)
 - f Perfect collusion (joint monopoly)

MARKET PERFORMANCE

A Allocative efficiency

- 1 Definition: Maximization of net benefits (where $P = MC$)
- 2 Measurement:
 - a Lerner index: $(P-MC)/P$ [note in perfect competition $P = MC$, so Lerner index equals zero]
 - b Harberger triangle of deadweight loss

B Technical (productive) efficiency

- 1 Definition: Production at lowest per unit cost
- 2 Measurement:
 - a Production at MES
 - b No X-inefficiency
 - c No excess capacity

C Dynamic efficiency (progressiveness)

- 1 Definition: optimal introduction of new products and processes over time.
- 2 Measurement: very difficult!
 - a R&D expenditures/Sales
 - b Number of patents/Sales

D Equity

- 1 Horizontal fairness
- 2 Vertical fairness
- 3 Equality?