

# Industrial Economics

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Slides

*Industrial Organization: Markets and Strategies*  
Paul Belleflamme and Martin Peitz, 2d Edition

# 1. BASIC CONCEPTS



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*Industrial Organization: Markets and Strategies*  
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# Markets

- Allow buyers (demand side) and sellers (supply side) to exchange goods and services in return for a monetary payment.
- Play a central role in the allocation of goods.
- Affect production & other firm decisions.
- Myriad of different varieties of markets.

Markets can differ in terms of the number of firms, market size, entry barriers, product type, regulation, ...

In economics, we typically distinguish among the following market types:

### 1. Perfect Competition

### 2. Monopolistic Competition

### 3. Monopoly

### 4. Oligopoly



Markets with  
Imperfect  
Competition

**Course focus on:  
Oligopoly markets**  
(markets where there are  
strategic interactions)

### Firm Profit

$$\text{Profit} = \text{Revenues} - \text{Costs}$$

- Revenues depend on consumers preferences (demand) and on type of market interaction.
- Costs depend on firm's technology.

Note: We put relationships within the firm into a “black box”.

### Firm Costs

- Economic costs refer to opportunity costs.
- (Total) Cost of production:  $C(q)$   
It is the minimal cost to produce output  $q$  given the input prices and the available production technology.  
It can include both variable costs and fixed costs:  $C(q) = VC(q) + FC$
- Fixed costs: Independent of current output levels  
They affect the profit level but not decisions such as pricing.
- Sunk costs: Part of the fixed costs which cannot be recovered
- Marginal cost:  $MC = C'(q) = \partial C(q)/\partial q$   
In this course, we will often assume that  $MC$  is constant.

### Firm Costs

- Economies of scale: Average cost ( $C(q)/q$ ) is decreasing
- Diseconomies of scale: Average cost is increasing
- Economies of scope: Average cost of a particular product decreases if product range is increased (more products are produced)
- Diseconomies of scope: Average cost of a particular product increases if product range is increased

### Profit-maximization hypothesis

- Profit of single-product firm:  $\pi(q) = qP(q) - C(q)$ 
  - $P(q)$ : inverse demand for the product of the firm
  - $C(q)$ : firm's economic costs

In market context, firm's profit is also affected by other firms' choices.

Note: The above specification focuses on firm's own quantity and ignores other variables (e.g., advertising, R&D efforts).

- Firms are assumed to be profit maximizers.  
Profit maximization is the natural objective of firm owners.

MARKETING

# The ‘Myth of Market Share’: Can Focusing Too Much on the Competition Harm Profitability?

Jan 24, 2007

📍 Global Focus, North America 🎧 Podcasts



It is a common practice of many companies to focus their attention on grabbing market share from their competitors. But such efforts can actually be detrimental to the firm’s profitability, according to Wharton marketing professor J. Scott Armstrong.

For years, Armstrong has been conducting research showing that competitor-oriented objectives, such as setting market-share targets, are counterproductive. After co-authoring a paper in 1996 that reached this conclusion, he and a different co-author, Kesten C. Green of Monash University in Australia, have written another paper summarizing 12 new studies that add additional weight to the original conclusion. Their study is titled, “Competitor-oriented Objectives: The Myth of Market Share.”

For example, companies whose only goal was profit maximization — DuPont, General Electric, Union Carbide and Alcoa — posted stronger returns on investment than did the other firms studied. By contrast, the six firms whose only goal was market share — National Steel, the Great Atlantic & Pacific Tea Company, Swift, American Can, Gulf and Goodyear — fared worse in terms of ROI. Indeed, some of these companies, like National Steel and American Can, no longer exist.

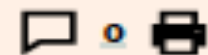
## FINANCIAL TIMES

# H&M expects return to profit on stronger than expected recovery

Revenue fall offset by tighter cost control and reduction in sales of discounted clothing



Richard Milne SEPTEMBER 15 2020



Hennes & Mauritz said it expected to return to profitability as the world's second-biggest clothing retailer enjoys a stronger recovery from coronavirus than expected.

The Swedish group forecast on Tuesday a pre-tax profit of about SKr2bn (\$230m) in its third quarter, which runs from June to August. That is far above the consensus analyst forecast of SKr350m, according to Refinitiv.

Shares in H&M rose by 12 per cent on Tuesday morning to SKr160.30.

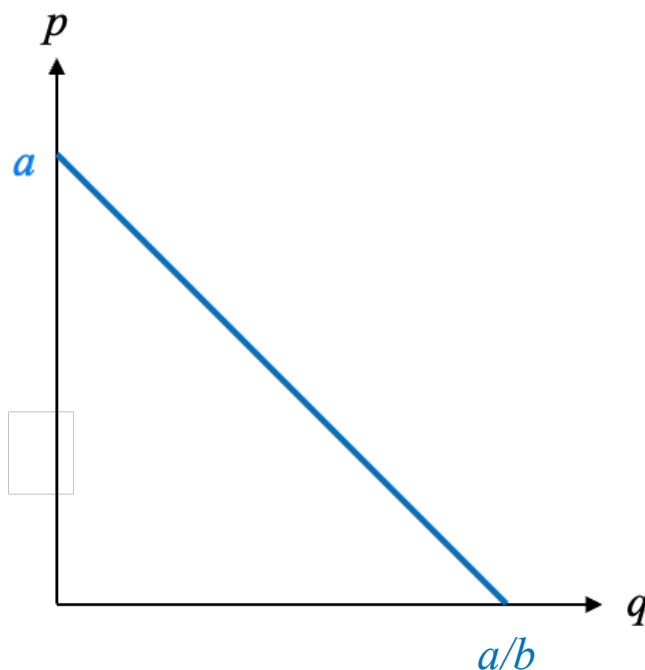
The fast-fashion chain credited fewer discounted sales and strong cost control with helping it rebound from the impact of coronavirus lockdowns across Europe and the US, which at the peak of the pandemic closed four in five of H&M's stores.

### Consumers as decision makers

- Consumers are assumed to be rational
  - They choose what they like best.
    - Yet, they may make errors (as long as errors are non-systematic, standard theory can deal with them).
    - New theories with systematic biases or behavioural patterns  
→ behavioural IO (not covered in this course)
  - They are forward-looking.
    - They form expectations about the future.

### Demand

- In many models we use particular specifications of individual demand:
  - Consumers with unitary demand  
This means that consumers buy one unit (or possibly zero units) of a product.
  - Consumers with linear demand  
The most commonly used linear demand function (which is generated by a linear quadratic utility function) is:  $p(q) = a - bq$ , where  $a, b > 0$   
It can be also written as:  $D(p) = A - Bp$ , where  $A = a/b$  and  $B = 1/b$



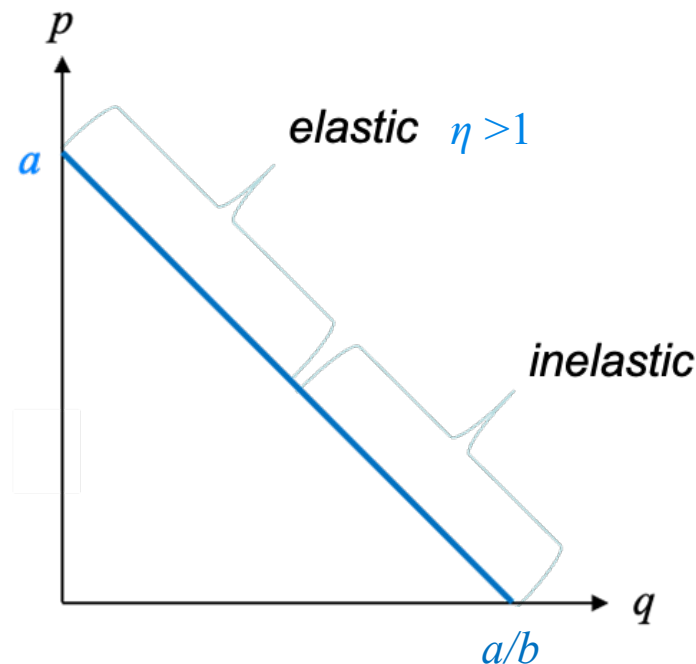
## 1.3 Consumers

### Demand

- From individual to aggregate demand:

Either we assume that any consumer is representative of all others or we account for taste differences among consumers by adding their individual demands.

- (Price) demand elasticity:  $\varepsilon = \eta = -\frac{\% \Delta q}{\% \Delta P} = -\frac{\Delta q/q}{\Delta P/P} = -\frac{\partial q}{\partial p} \frac{P}{q}$

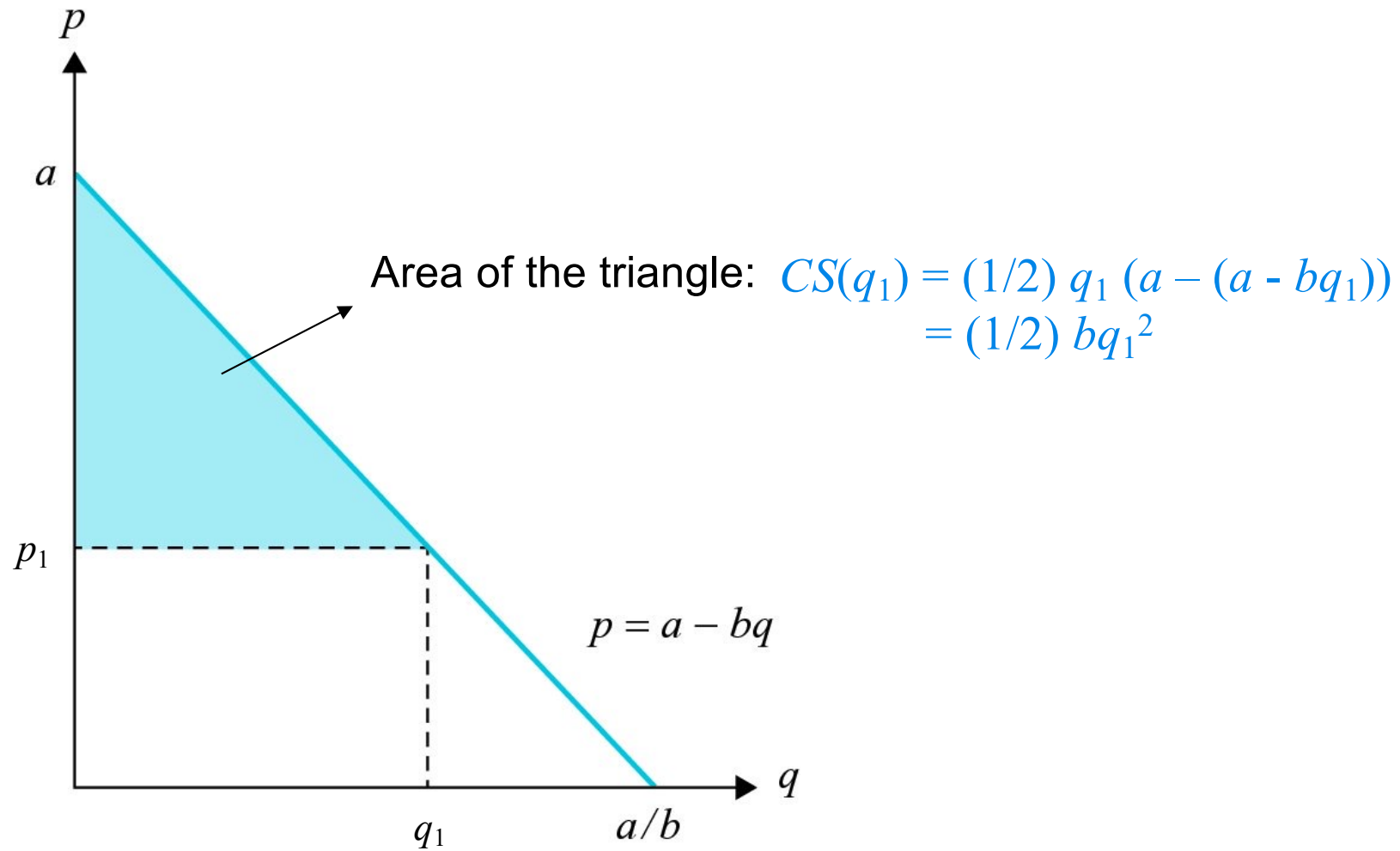


Price elasticity of demand increases with price.

### Welfare analysis of market outcomes

- Partial equilibrium approach
  - Focus on one (or a small number of) market(s) at a time
    - Abstract away cross-market effects
  - Abstract from input price changes
  - Abstract from income effects on the consumer side
- Welfare measures:
  - Firms: sum of firms' profits (**producer surplus**)
  - Consumers: **consumer surplus**  
Net benefit from being able to purchase a good or service.  
Difference between willingness to pay and price actually paid.
  - **Economic Welfare** = Total surplus = consumer surplus + producer surplus

# Consumer surplus



### Perfectly competitive market

- Features (Assumptions):
  - Large number of small firms
  - Homogeneous product (perfect substitutes)      Not many real world markets have these features.
  - Free market entry & exit
  - Perfect information
- The perfectly competitive market serves in economics as a paradigm/benchmark.
- Firms take the market price as given (price takers).  
Each firm is too small (low output relative to total output) to influence the price.
- Market price results from combined action of all firms and all consumers (Demand = Supply).

## 1.5 Perfect Competition

### Perfectly competitive market

- Each firm faces a horizontal demand curve for its product (perfectly elastic).
  - Marginal Revenue ( $MR$ ) = price (1)
- Profit maximization rule:
  - Marginal Revenue = Marginal cost ( $MC$ ) (2)
  - (1) & (2) → price = marginal cost

A perfectly competitive firm produces at marginal cost equal to the market price.