Business Strategies Part II – Chapter 3

Economics and Mathematics of Strategy

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- Global Governance -
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3.1. Why Economics of Strategy?

There are many ways to study strategy …

It is **not enough** to

- *"be close to the customer"*
- *"stick to the knitting"*
- *" have a bias for action"*

Peters & Waterman 1982

or

- "to *put the right people at the right place"*
- *"search for levels' 5 Leaders"*
- *"stick to a culture of discipline"*

Collins 2001

Discuss other principles

or *a great CEO (example Jack Welch)*

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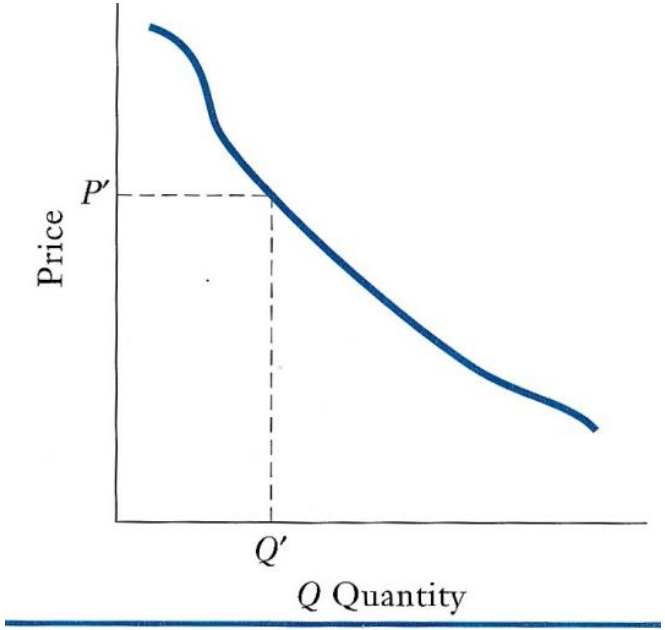
Economic modelling abstracts from the situational complexity that individuals and firms face.

Besanko et al. (2013, p. 5): "***Success is*** *often* ***no accident****. […] We can better understand why firms succeed or fail when we analyze decision making in terms of* ***consistent principles of market economics*****.**

3.2. Demand- and Revenue-Functions I

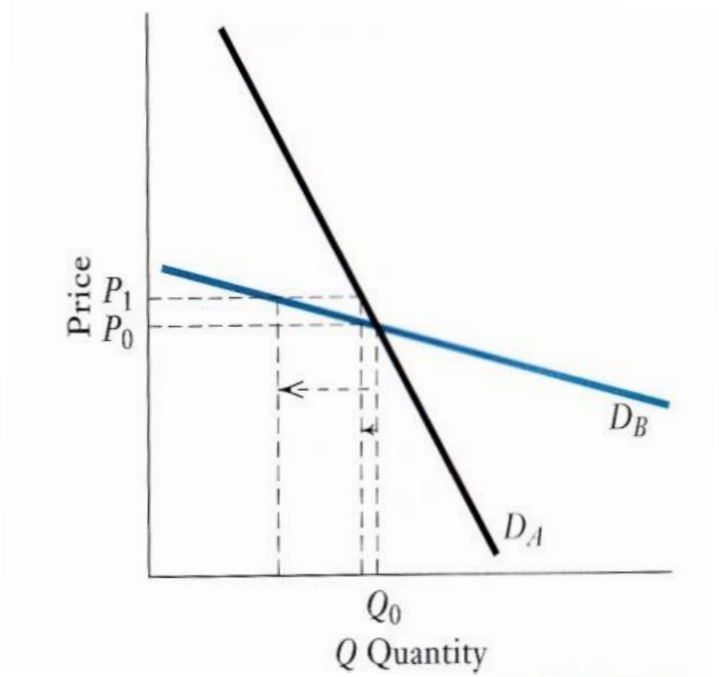
Demand curve



- **Downward slope**: The higher the price, the smaller the quantity of demand (exception: prestige products)

3.2. Demand- and Revenue-Functions II

Price sensitivity and the shape of the demand curve



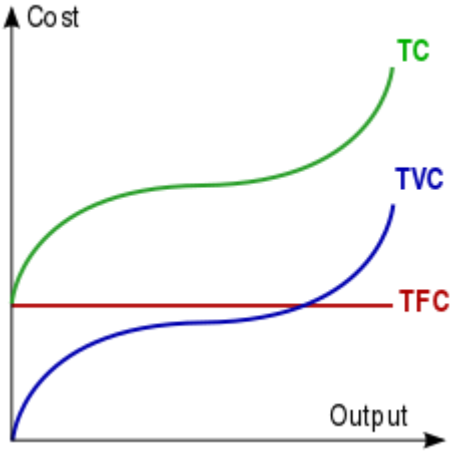
$$\textbf{Price Elasticity(EP)} = \frac{\Delta\ \textbf{quantity change}}{\Delta\ \textbf{price change}}$$

- **EP > 1:** Price change brought higher proport. Volume sold („price elastic“ demand)
- **EP < 1:** Quantity change is prop. smaller than price change („price inelastic“ demand)

3.3. Cost Functions I

For output decisions (Q), it is necessary to know the cost curves!

Total Cost



- Total cost function shows an efficiency relationship, given cost levels at that moment.
- Improving efficiency lowers the total cost curve.

Definition of Total Cost

Fixed cost: Invariant to the output (e.g., administration, depreciation, tax, R&D)

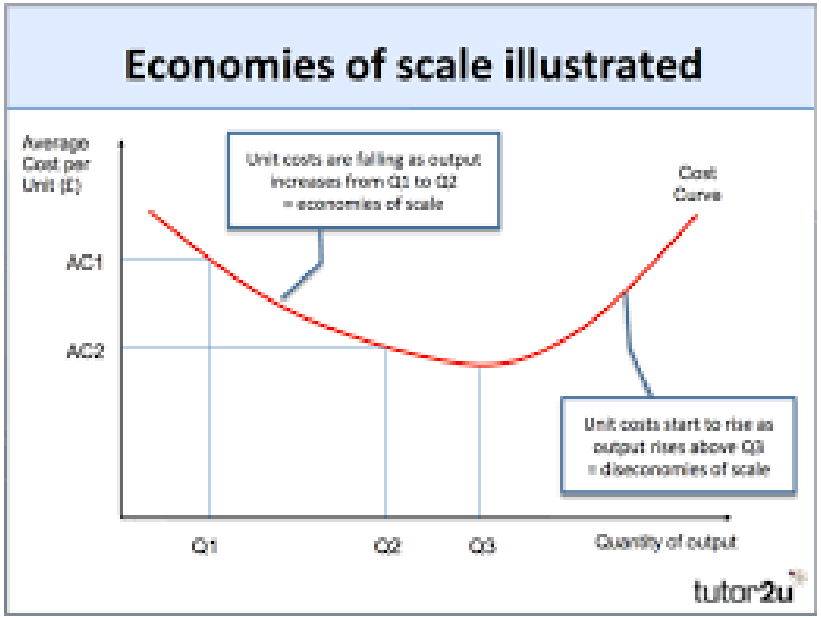
Variable cost: Directly related to the output (e.g., direct labour, energy, material)

Please define

- Fixed or not fixed depends on **the time horizon**.

3.3. Cost Functions II

Average costs and economies of scale

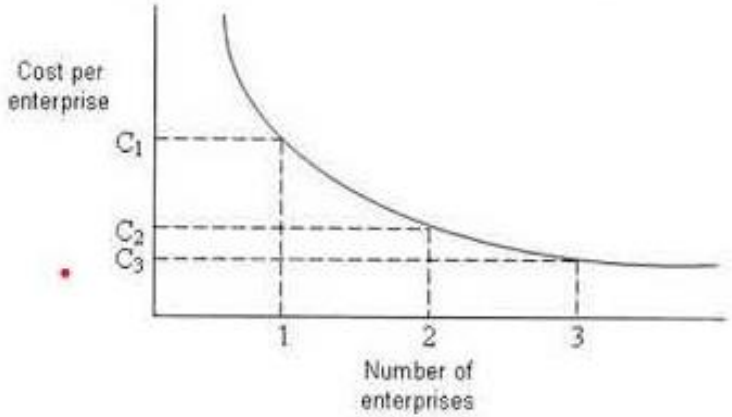


- Economies of scale are benefits gained when increasing volume results in lower unit cost.
- here: average cost function shows economies of scale, constant returns (Q1 – Q2) and diseconomies (> Q3)

3.3. Cost Functions III

Economies of scope ("Verbundvorteile")

Occurs when a firm can gain efficiencies from producing a wider variety of products. It make it cheaper to produce a range of products together than to produce each one of them on its own. Often this is the case, when the business owns a lot of enterprises.



"Efficiencies formed by variety, not volume"

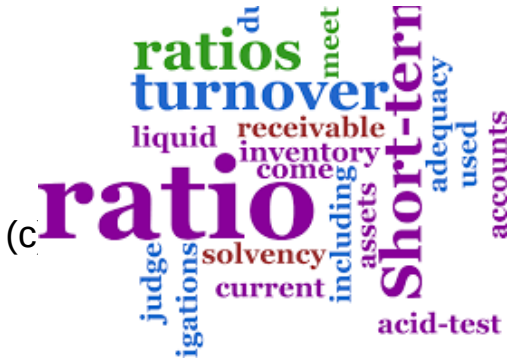
- Justifies diversification
- Advantages: flexibility in product mix/ design; repeatability of processes; better control; transferable knowledge; less risk

Discuss the different concepts with examples!
What is a learning curve? Value chain integration?
Discuss pros & cons of diversification!

3.4. Financial Analysis I

Three areas of analysis:

- Conjunctional analysis (compare data for more years)
- Cross sectional analysis (compare against competitors or other industries)
- Ratio analysis
  - performance ratios (a)
  - efficiency ratios (b)
  - liquidity ratios (c)
  - investors ratios (d)



3.4. Financial Analysis II

(a) Performance ratios: How well turn inputs into profit?

- Return (PBIT) on capital employed (%) = $\frac{Profit\ \ before\ interest\ and\ tax\ (PBIT)}{Total\ capital\ employed} \times 1$

- Return (PBIT) on sales (%) = $\frac{(PBIT)}{total\ sales\ (turnover)} \times 100$

- Gross marging (%) = $\frac{Gross\ profit\ (profit\ after\ direct\ costs)}{total\ sales\ (turnover)} \times 100$

3.4. Financial Analysis III

(b) Efficiency ratios: How efficiently assets are used to generate sales?

- Sales per employee (€) = $\frac{total\ sales\ (turnover)}{number\ of\ employees}$
- Profit per employee

(c) Liquidity ratios: How well the company can meet the short term debts?

- Current ratio (%) = $\frac{total\ liabilities}{total\ assets} \times 100$

(d) Investors ratios: How good is the investment for the investor?

- Earnings per share (€) = $\frac{profit\ after\ interest\ and\ tax}{number\ of\ shares}$
- Price/ Earnings ratio (P/E) = $\frac{market\ price\ of\ shares}{EPS\ (earning\ per\ shares)}$

$\frac{dividend\ per\ share}{share\ price}$

Bkup: VW 2017 analysis of performance ratios