

- **Total utility (TU)** - the overall level of satisfaction derived from consuming a good or service
- **Marginal utility (MU)** *additional satisfaction* that an individual derives from consuming an *additional unit* of a good or service.

Formula :

$$\begin{aligned} MU &= \frac{\text{Change in total utility}}{\text{Change in quantity}} \\ &= \frac{\Delta TU}{\Delta Q} \end{aligned}$$

Consumer Equilibrium

- **Optimizing condition:**

- If

$$\frac{MU_X}{P_X} = \frac{MU_Y}{P_Y}$$

$$\frac{MU_X}{P_X} > \frac{MU_Y}{P_Y}$$

⇒ spend more on good X and less of Y

$$e_{(p)} = \frac{dQ/Q}{dP/P}$$

$e_{(p)}$ = price elasticity

Q = quantity of the demanded good

P = price of the demanded good

Acid Test

- Also referred to as the 'Quick ratio'
- **(Current assets – stock) : liabilities**
- 1:1 seen as ideal
- The omission of stock gives an indication of the cash the firm has in relation to its liabilities (what it owes)
- **Gearing Ratio = Long term loans / Capital employed x 100**
- The higher the ratio the more the business is exposed to interest rate fluctuations and to having to pay back interest and loans before being able to re-invest earnings

- **Earnings per share** – profit after tax / number of shares
 - **Price earnings ratio** – market price / earnings per share – the higher the better generally for company. Comparison with other firms helps to identify value placed on the market of the business.
 - **EV / EBITDA Ratio** - Enterprise Value / EBITDA ratio - the higher the better generally for company . It measures the operational performance of the firm.
 - **Dividend yield** – ordinary share dividend / market price x 100 – higher the better. Relates the return on the investment to the share price.
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- **Gross profit** – effectively total revenue (turnover) – variable costs (cost of sales)
- **Net Profit** – effectively total revenue (turnover) – variable costs and fixed costs (overheads)
- **Gross Profit Margin = Gross profit / turnover x 100**
- **Net Profit Margin = Net Profit / Turnover x 100**
- **Return on Capital Employed (ROCE) = Profit / capital employed x 100**
- **Asset Turnover = Sales turnover / assets employed**
- Using assets to generate profit
- Asset turnover x net profit margin = ROCE
- **Stock turnover = Cost of goods sold / stock expressed as times per year**
- **Debtor Days = Debtors / sales turnover x 365**

1. Concentration ratio

The concentration measures an industry's concentration by examining the share of output controlled by the largest four firms in that industry

- This could be measured in terms of sales, value added, or other metric

The Herfindahl Index is calculated in three steps:

1. Determine the percent of output produced by each of the largest four firms
2. Square each of those share
3. Add all the squared numbers