4 types of efficiency:

Allocative efficiency

1. **S=D. Market equilibrium**: supply = demand is a type of allocative efficiency. Market reaches a clearing price at equilibrium. This is allocatively efficient but note that this could be different from where smb=smc.

2. **(S)MB = (S)MC, benefits = costs**, market is operating efficiently to the point that benefit = costs. This is particularly in terms of social optimum i.e. smb = smc. This is allocatively efficient.

3. **MC = AR (price) allocative efficiency quantity,** this is allocatively efficient and occurs at **mc = ar** (price). Note: that in our markets AR = price. This is simple the TR/q. Note: A further key formula is MR = MC. This is the profit maximizing output for any firm in any of the 4 types of competition. See webnote 1592 for maximum profit output level.

Productive efficiency

4. **MC=AC (AC at lowest point),**
   Productive efficiency: productive efficiency quantity occurs at lowest point of ac curve: **mc = ac. See Fig 1: productive efficiency occurs at point 2.**

Syllabus Reference: 2.11: Economic efficiency + Productive efficiency

1. Productive Efficiency

- Occurs within the firm. Efficiency is measured at any point in the Average cost curve (AC= TC/q). Note carefully that it is unit cost = TC/q of units
- Why be efficient? Increases profits, particularly where firms are in a competitive industry. Consider TR- TC. Lowering costs increases profits.

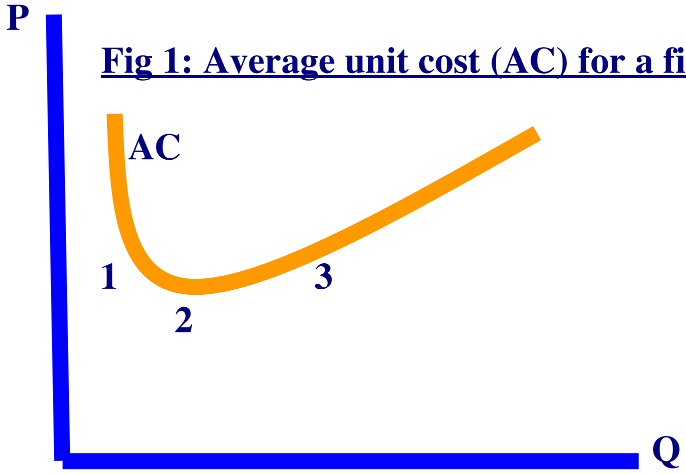


Fig 1: Average unit cost (AC) for a firm

- SHORT RUN: efficiency is influence by increasing + diminishing marginal returns. Remember at least 1 factor of production is fixed in short run.
- LONG RUN: Economies of scale (size) can play a major role in productive efficiency if they cause LRAC / unit cost to fall i.e. if the big firm has lower unit costs than a smaller firm in the same industry. See webnote 209 for economies of scale.
- Economies of scale may be particularly relevant for firms in Monopoly / Oligopoly market structure. Note carefully that economies of scale is a long run concept only! LRAC= long run average cost

2 Economic or Allocative Efficiency see fig. 2 or fig 3

- Occurs outside the firm (macro concept)
- Occurs when society is producing G + S most valued by society (see point on ppf)
- Producing within PPF may well be a good representation of 'economic or allocative inefficiency'. (See red point inside PPF.)

fig 2: PPF to show economic efficiency

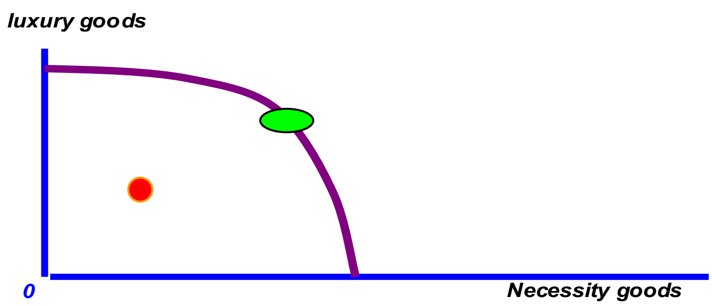
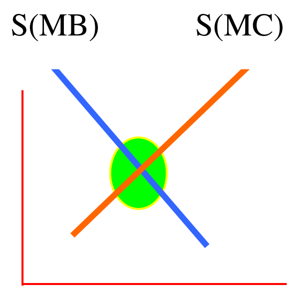


Fig 3: supply + demand



see also webnote 1592 for "profit"