Managing Financial Resources
Costs
Cost analysis 1 (14)
Patrick Galig / HB41 / Henley Business School

Cost analysis

Production function

$Q = F(I_1, I_2, I_3, \ldots\ldots I_n)$

I = Labour, Land, Capital

Cost function

$C = F(Q, p_1, p_2, \ldots\ldots\ldots p_n)$

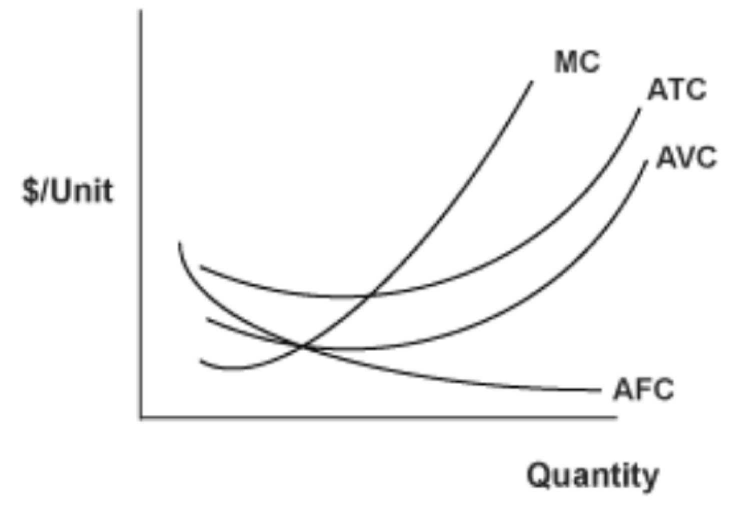
Kind of costs

Fixed costs (FC)

- don't vary as output changes
  - lease, rent etc.
- *fixed factors of production*

Formulaes

- TC = TFC + TVC
- AVC = TVC / Q
  - fall initially to a certain level where they begin to rise
- AFC = TFC / Q
  - decline continuously as more and more output
- ATC = AFC + AVC = TC / Q
  - combination of AFC & AVC, fall initially but rise later on



Variable costs (VC)

- Change with output
  - raw materials, components, energy etc.
- *variable factors of production*

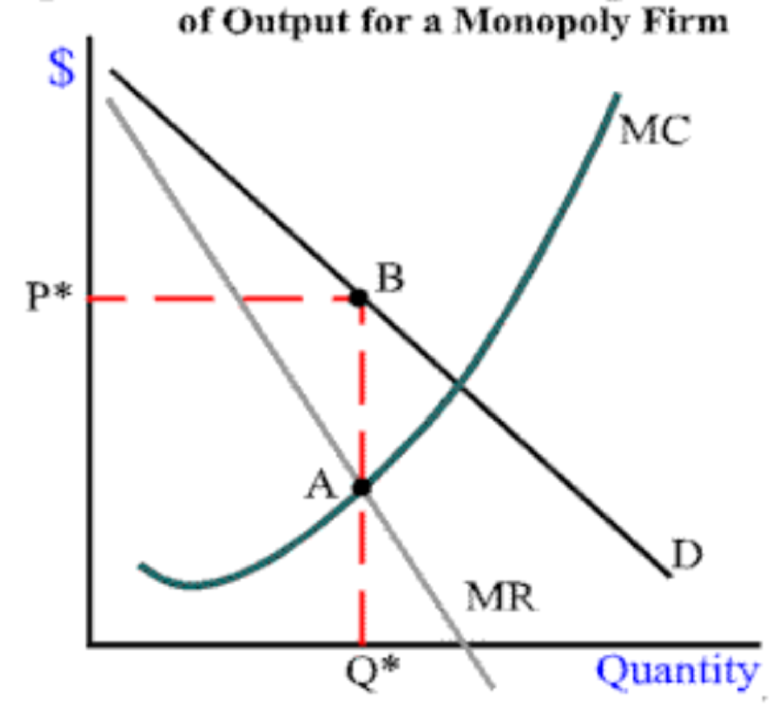
Time period

- short run
  - period during which at least one input is fixed in supply but the other inputs can be altered
  - operating period of company
- long run
  - sufficient length to vary all inputs into the production process
  - planning horizon

Maximising profit

- Normal profit = opportunity costs covered ("cost of capital" --> loans interest, return to equity from investors)
- Supernormal profit = profit & opportunity costs
- is reached where **MR = MC** --> To produce more leads to less marginal revenue and increasing marginal costs. There might be a second point of intersection but profit is only maximised when the cost curve is rising and not declining

Figure 10-2 **The Profit Maximizing Level of Output for a Monopoly Firm**



incremental cost

Total change in cost caused by the output increment divided by the change in output

Diminishing returns

Sometimes referred to as variable factor proportions, law of diminishing returns states that as equal quantities of one variable factor are increased, while other factor inputs remain constant, ceteris paribus, a point is reached beyond which the addition of one more unit of the variable factor will result in a diminishing rate of return and the marginal physical product will fall.

Marginal cost

- Change in total cost of production as output is changed incrementally
- $$MC = \frac{dTC}{dQ}$$
- in the short run just changes in variable costs, long run change in fixed costs as well