Production - Firms & Markets

Firm - decision maker on output & / or price

Objective of firm - maximize profit
↳ include - protection of brand name
- environmental

Profits $= \pi$

$\pi = TR - TC$

$= AR \cdot Q - AC \cdot Q$

$= P \cdot Q - AC \cdot Q$

Cost → explicit costs
- out of pocket expenses

Accounting Costs
- Interest on loan
- Labor
- Inputs
- Rent
- Utilities

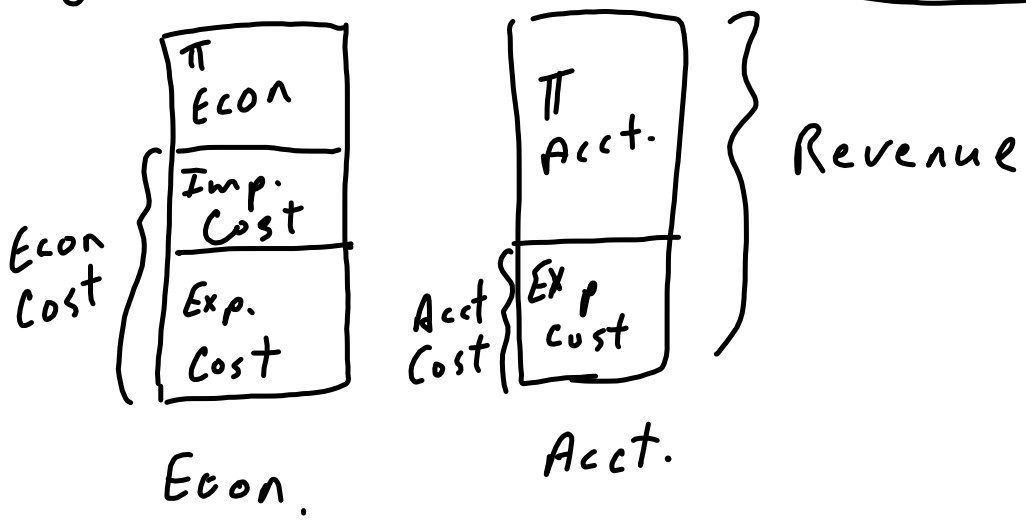
→ implicit cost - opportunity cost
- capital - foregone interest
- owner's time - foregone wage

Economic Costs > Accounting Costs

Sole proprietorship - opportunity cost

Q2 p276

Fig 1. p 262



Production - goods
- services
} output

Recipe - production function

Inputs → Output

$Q = Q(L, K)$

L - labor
K - capital

production function

$\frac{\partial Q}{\partial K} > 0$

$\frac{\partial Q}{\partial L} > 0$

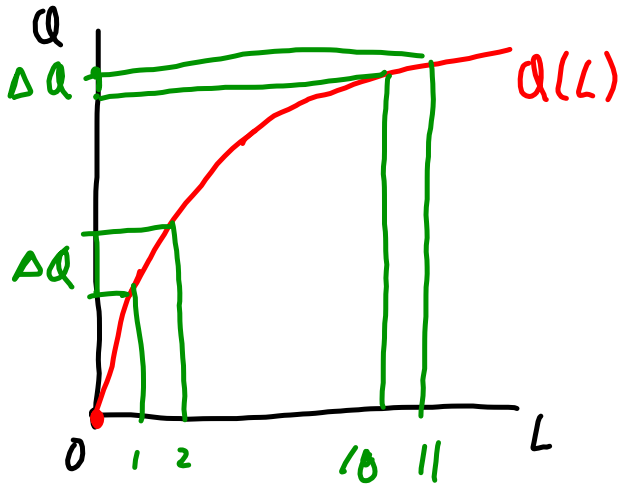
Short run → only one input variable (change)

hold K fixed. vary L.

want Q↑ L↑ K unchanged.

Q↓ L↓

$Q = Q(L)|_{K^*}$



L↑ → Q↑

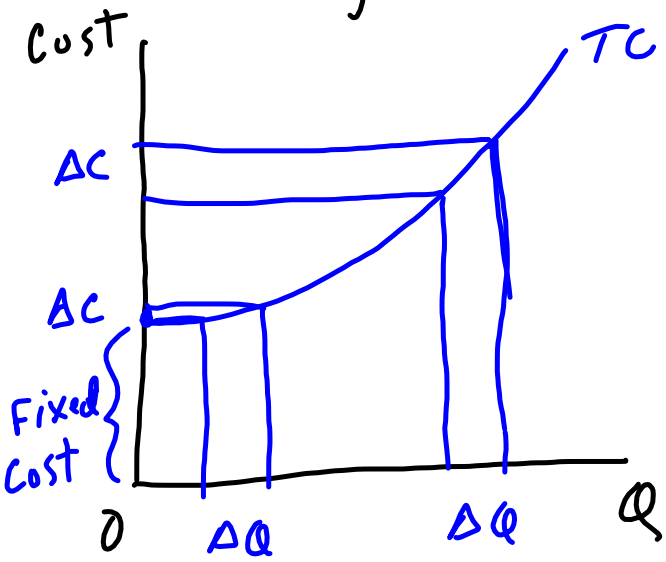
K fixed + we keep adding labor

$\frac{\Delta Q}{\Delta L}$ decline

Diminishing marginal product of labor

If wage constant pay worker 11 same as paid 2.

If marginal product of labor (MP_L) falling & cost per worker constant



TC ↑ increasing rate because diminishing MP_L

Marginal cost

$\frac{\Delta TC}{\Delta Q}$ ↑ as Q ↑

Table 1 p263 - Q3&4 p276 / Table 3 p274

Compare $P \cdot Q = TR$ to TC ($AC \cdot Q$)

$TR > TC$ $\pi > 0$ - necessary

max π? if not $\Delta Q \uparrow \downarrow$