

May 13

Chapter 10 "Cost"

* **Cost**: the payment that must be made to obtain and retain resources or services.

1. **Explicit costs** → التكاليف المباشرة أو الواضحة : monetary payments (accountant cost) → والتكاليف المباشرة.

2. **Implicit costs** → التكاليف الضمنية : self own resources, value of next best use → التكاليف الضمنية، والتكاليف الضمنية، والتكاليف الضمنية.

⇒ **Economic cost** = explicit cost + implicit cost.

⇒ **Accountant profit** = Total revenue - explicit cost.

⇒ **Economic profit** = Total revenue - economic cost.

* **Short run** (المدة القصيرة): Some input ^{are} variables, some fixed plant _{are} variables.

* **Long run**: All inputs are variables.
(المدة الطويلة) يقدر أن غير كل شيء فيها



* Total product (TP) → quantity .

Marginal Product (MP) → $\frac{\Delta TP}{\Delta L}$
 كیف تغییرات در مقدار تولید را نشان می‌دهد
 مع کل واحد

$$MP = \frac{\Delta TP}{\Delta L}$$

$\Delta L = \Delta$ in labors "تغییر"

eg:

| L | TP | MP |
|---|----|----|
| 1 | 3 | 3 |
| 2 | 7 | 4 |
| 3 | 10 | 3 |

Calculations for MP:

- From L=1 to L=2: $\frac{7-3}{2-1} = 4$
- From L=2 to L=3: $\frac{10-7}{3-2} = 3$

@ L = 3 ; TP = 10
MP = 3

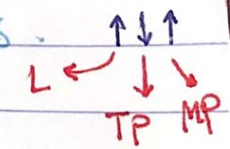
⇒ MP (تولید از آخرین کارگر): Production from last worker.

* Average product (AP) = $\frac{TP}{L}$

eg: next page.

| Labor | TP | MP | Description |
|-------|----|----|--|
| 0 | 0 | - | → Increasing Marginal Returns ↑↑↑ |
| 1 | 10 | 10 | |
| 2 | 25 | 15 | |
| 3 | 45 | 20 | |
| 4 | 60 | 15 | → Diminishing Marginal Returns ↑↑↓ |
| 5 | 70 | 10 | |
| 6 | 75 | 5 | |
| 7 | 75 | 0 | |
| 8 | 70 | 5 | → The law of diminishing returns ⇒ <u>negative</u> marginal returns. ↓↓↑ |

$$MP(5) = \frac{70 - 60}{5 - 4} = 10$$



$$AP = \frac{TP}{L} \quad \text{eg: } AP(5) = \frac{70}{5} = 14$$

- AP → القوة
- 10
 - 12.5
 - 15
 - 15
 - 14
 - 12.5
 - 10.71
 - 8.75