Measures of Labor Productivity

Marginal product (MP): observed increase in TP when one more worker is hired

Total product (TP): Total units produced by ALL workers

Average product (AP): Output per worker

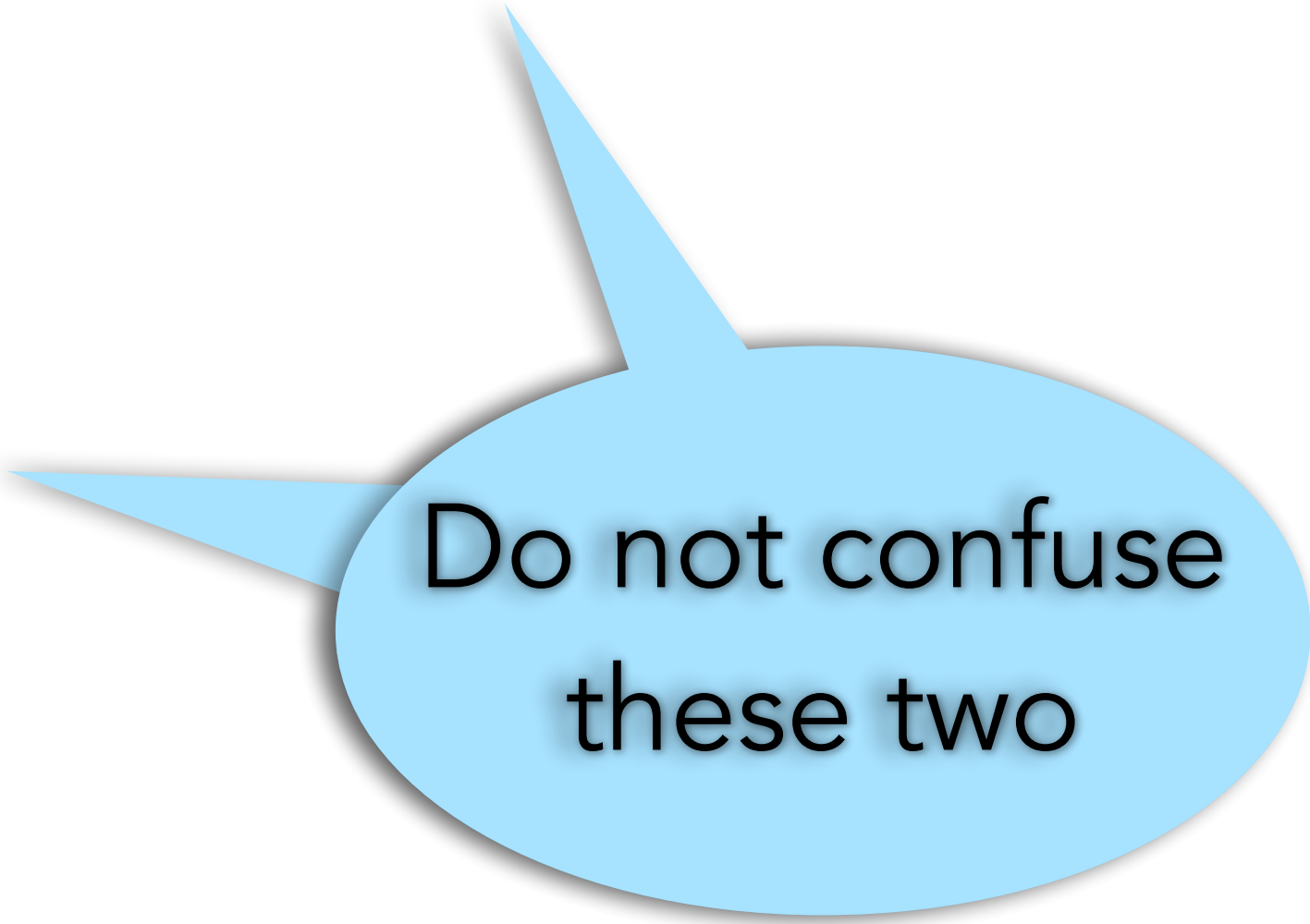
Sum of MP

$$\frac{\text{Change in TP}}{\text{Change in L}}$$

$$TP\ (L=n) = MP_1 + MP_2 + MP_3 + MP_4 + \ldots + MPn$$

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


AP= TP
L


Do not confuse
these two

Measures of Labor Productivity

Total product (TP): Total units produced by ALL workers → Sum of MP

$$TP\ (L=n) = MP_1 + MP_2 + MP_3 + MP_4 + \ldots + MPn$$

Marginal product (MP): observed increase in TP when one more worker is hired → $\frac{\text{Change in TP}}{\text{Change in L}}$

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

Average product (AP): Output per worker → $AP = \frac{TP}{L}$

Do not confuse these two

Using the Total Product (TP) to calculate the Marginal Product (MP)

Labor (L)	TP	MP
0	0	
1	5	5-0=5
2	12	12-5=7
3	21	21-12=9
4	33	33-21=12
5	47	47-33=14
6	63	63-47=16
7	78	78-63=15
8	91	91-78=13
9	102	102-91=11
10	110	110-102=8
11	115	115-110=5
12	117	117-115=2
13	115	115-117=-2
14	110	110-115=-5
15	102	102-110=-8
16	91	91-102=-11
17	78	78-91=-13