

Team Scores

- 382 Lazy
- 362 Micromachines
- 349 Snake Eyes + 1

	Inputs	Output
Micromachines	1 2	2 10
Snake Eyes	1 7	1 64
Lazy	0 5	0 5

Average Productivity (AP) = $\frac{\text{Output}}{\text{Input}}$
 Marginal Productivity (MP) = $\frac{\Delta \text{Output}}{\Delta \text{Input}}$

Inputs	Output	AP	MP
1	2	2	
2	10	5	3

$\frac{10-2}{2-1} = 8$

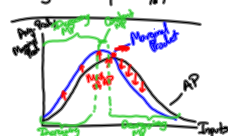
Decreasing marginal productivity

Constant marginal productivity

Increasing marginal productivity

Snake Eyes Input	Output	AP	MP
1	1	1	
5	7	1.4	1.2

$\frac{7-1}{5-1} = 1.5$



Costs

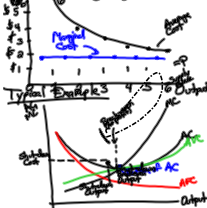
- Variable Cost - costs which vary w/ output
- Fixed Cost - cost that do not vary w/ output
- Sunk Cost - costs that cannot be recovered
- Total Cost = Variable Cost + Fixed Cost

Average Cost = $\frac{\text{Total Cost}}{\text{Output}}$
 Marginal Cost = $\frac{\Delta \text{Total Cost}}{\Delta \text{Output}}$
 Average Variable Cost = $\frac{\text{Variable Cost}}{\text{Output}}$
 Marginal Variable Cost = $\frac{\Delta \text{Variable Cost}}{\Delta \text{Output}}$
 Average Fixed Cost = $\frac{\text{Fixed Cost}}{\text{Output}}$

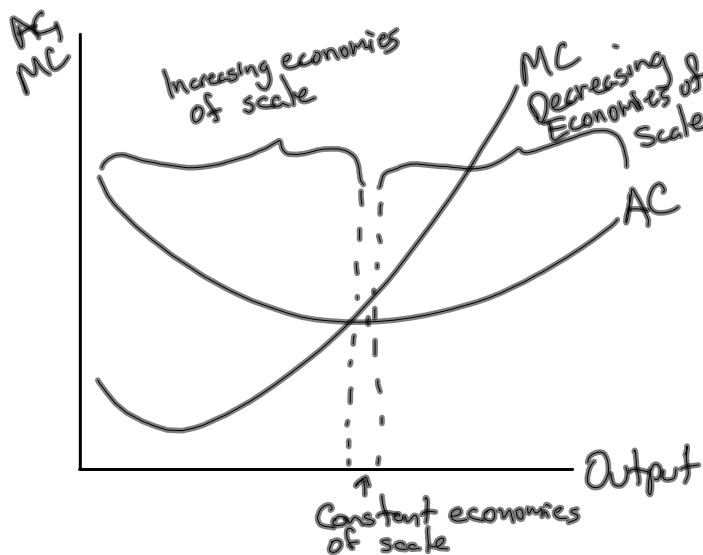
Example

Fixed cost = \$5
 Variable cost = \$1

Inputs	Output	FC	VC	TC	AP	MP
1	1	\$5	\$1	\$6	1	
2	2	\$5	\$2	\$7	1.5	0.5
3	3	\$5	\$3	\$8	1.67	0.33
4	4	\$5	\$4	\$9	1.5	0.17
5	5	\$5	\$5	\$10	1	0
6	6	\$5	\$6	\$11	0.83	-0.17



AP = AVC = AC
 When should you stop selling?
 Price = Marginal Cost
 Supply curve: Above MC > AVC
 Below MC > AVC = shutdown point

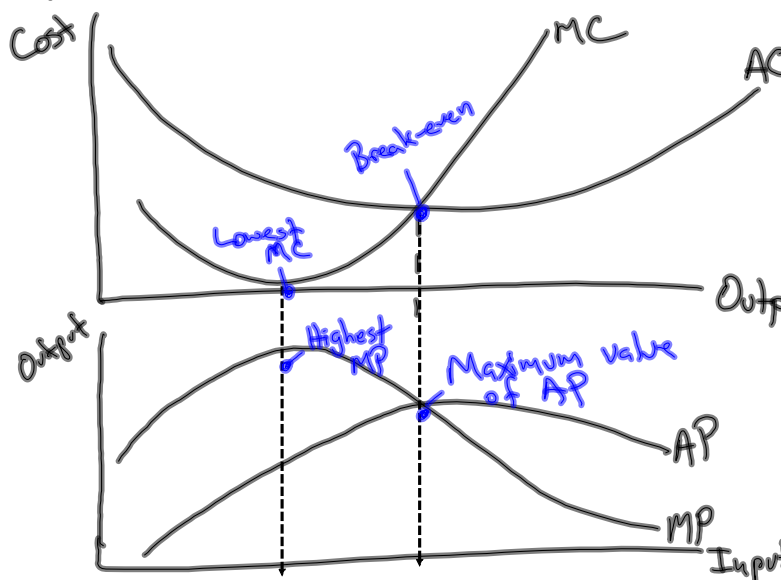


Increasing economies of scale: $\underline{MC} < AC$

Constant economies of scale: $MC = AC$

Decreasing economies of scale: $MC > AC$

Relationship between productivity & cost



$$\text{Profit} = P^* \times Q^* - \text{Total Cost} = Q^* \times AC$$

↑
↑
↑

Where
Greater than