

Knockout.Economics by Kru P'Eve & Kru P'Da

IGCSE -Business studies

Identify and classify costs



- Executive summary IGCSE Business studies
- Series of exam questions each chapter
- Exam Strategies and exclusive tips to achieve A* from Knockout.Economics
- Exclusive Key Terms for IGCSE Business studies exam



Overviews

1. Classifying costs using examples, e.g. fixed, variable, average and total cost
2. Use cost data to help make simple cost-based decisions, e.g. to stop production or continue



1. Classifying costs; fixed cost, variable cost and total cost

Cost: expense from producing goods

Total cost: Fixed cost + Variable cost

	Fixed Cost	Variable Cost	Total Cost
Meaning	<ul style="list-style-type: none"> • Cost that do not vary with production volume in the short run 	<ul style="list-style-type: none"> • Cost that do vary with production volume 	<ul style="list-style-type: none"> • Fixed cost + Variable cost
Example	<ul style="list-style-type: none"> • Eg. Rent, Water supplies , insurance, interest 	<ul style="list-style-type: none"> • Eg. Raw material, Packaging 	
Diagram			

1. Classifying costs; total cost and average cost

- **Total cost = Fixed cost + Variable cost**
- **Average cost = $\frac{\text{Total cost}}{\text{Total output}}$, cost per unit**
- **Average Fixed Cost (AFC) = $\frac{\text{Total fixed cost}}{\text{Total Output}}$, fixed cost per unit**
- **Average Variable Cost (AVC) = $\frac{\text{Total variable cost}}{\text{Total Output}}$, variable cost per unit**

Finding total cost and average total cost at any quantity level.

Output	Total fixed cost (THB)	Total variable cost (THB)	Total cost	Average total cost
1	1000	100		
2	1000	150		
3	1000	200		

2. Use cost data to help make simple cost-based decisions, e.g. to stop production or continue

1. Setting prices

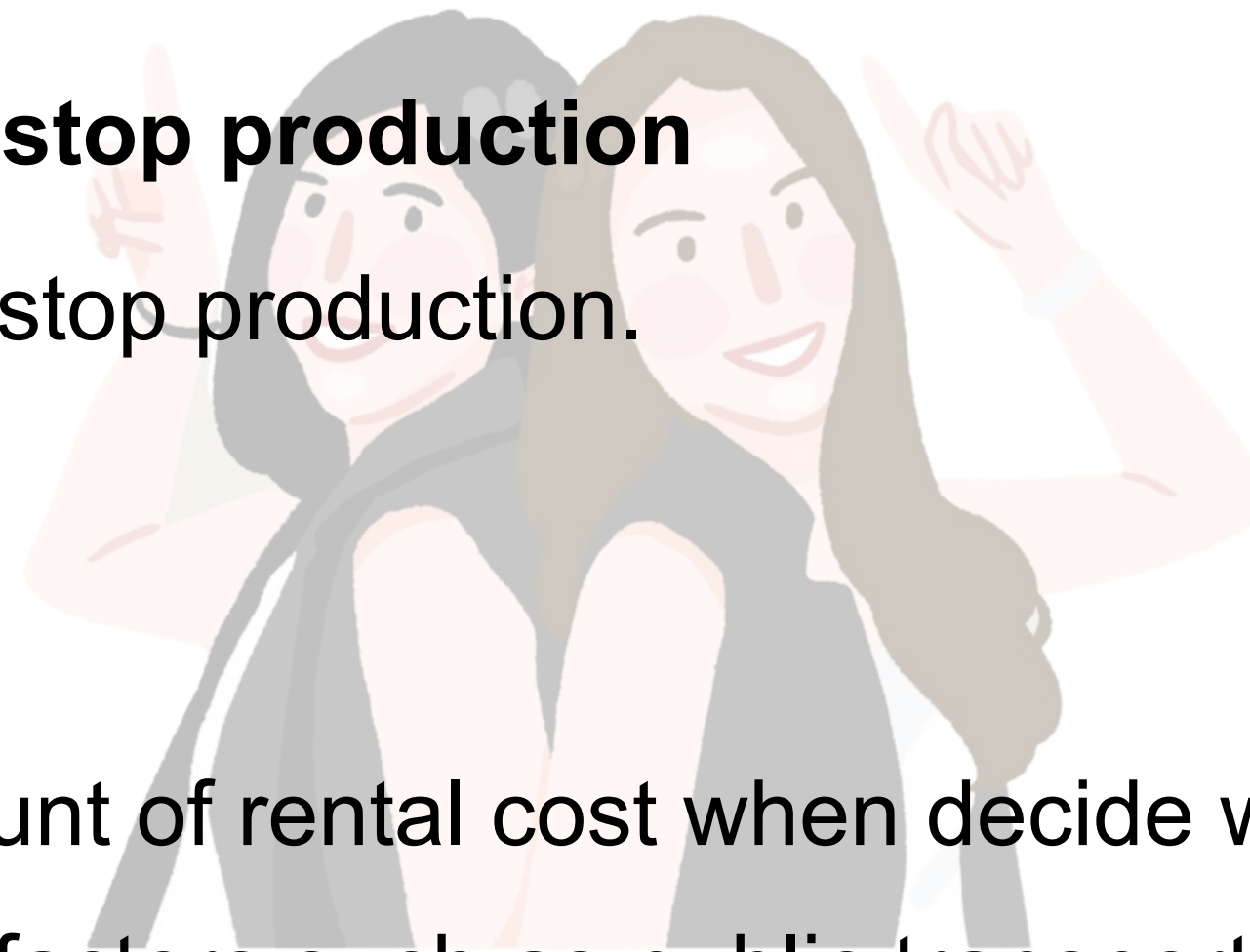
: Business needs to know cost in order to set price. So businesses can make profit.

2. Deciding whether to continue or stop production

: If business makes a loss, it may stop production.

3. Deciding on the best location

: The business may take into account of rental cost when decide where to locate the shop. However, it should also take into account of other factors such as public transportation available to the shop.



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Economies and diseconomies of scale

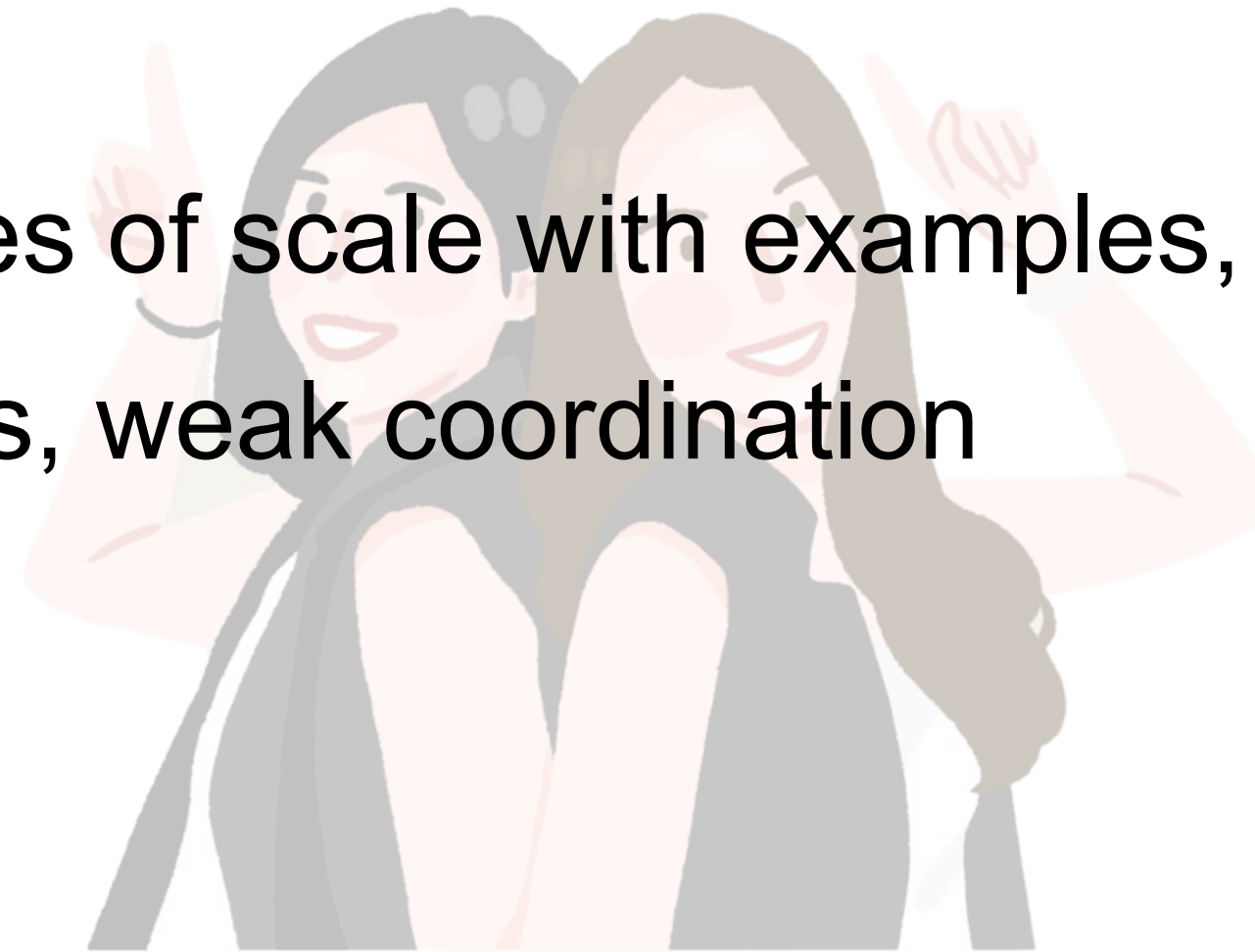


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Overviews

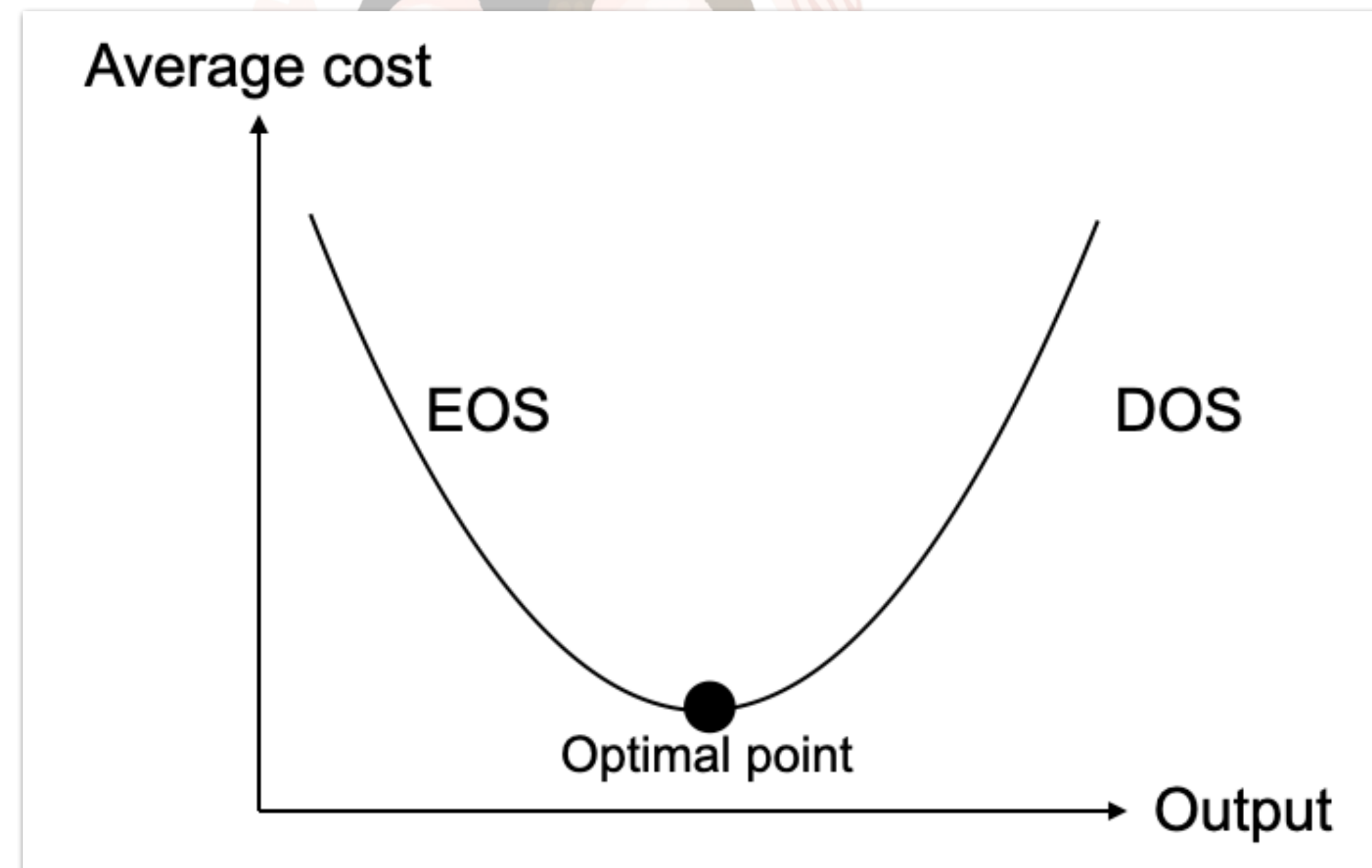
1. Difference between economies of scale and diseconomies of scale
2. The concept of economies of scale with examples, e.g. purchasing, marketing, financial, managerial, technical
3. The concept of diseconomies of scale with examples, e.g. poor communication, lack of commitment from employees, weak coordination



1. Difference between economies of scale and diseconomies of scale

Economies of scale : are the factors that lead to a reduction in average cost as a business increases in size.

Diseconomies of scale: are the factors that lead to an increase in average cost as a business grows beyond a certain size.



2. The concept of economies of scale

Economies of scale : are the factors that lead to a reduction in average cost as a business increases in size.

1. Purchasing Economies of scale

- When businesses buy raw material in bulk at discount.

2. Marketing Economies of scale

- Advertising cost per unit falls as output rises.

3. Managerial Economies of scale

- Larger businesses can employ specialist staffs who have higher productivity to reduce average cost.

4. Financial Economies of scale

- Large businesses are more reliable and It is easier for them to access funding with cheaper cost of borrowing.

5. Technical Economies of scale

- Large businesses have enough funding to invest in advance technology to reduces cost per unit.

3. The concept of diseconomies of scale

Diseconomies of scale: are the factors that lead to an increase in average cost as a business grows beyond a certain size.

Poor communication

Large businesses have many layers. It makes slow and inaccurate communication, resulting in serious mistakes and higher average cost.

Low morale

Workers in a large firm do only small part of a business

- Employee feel useless and demotivated.
- It leads to low productivity and higher average cost.

Slow making decisions

Large businesses have long steps when making decision

- Firms may have slow decision-making as a result firms cannot response quickly to changes in market conditions and trends.

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Break-even analysis

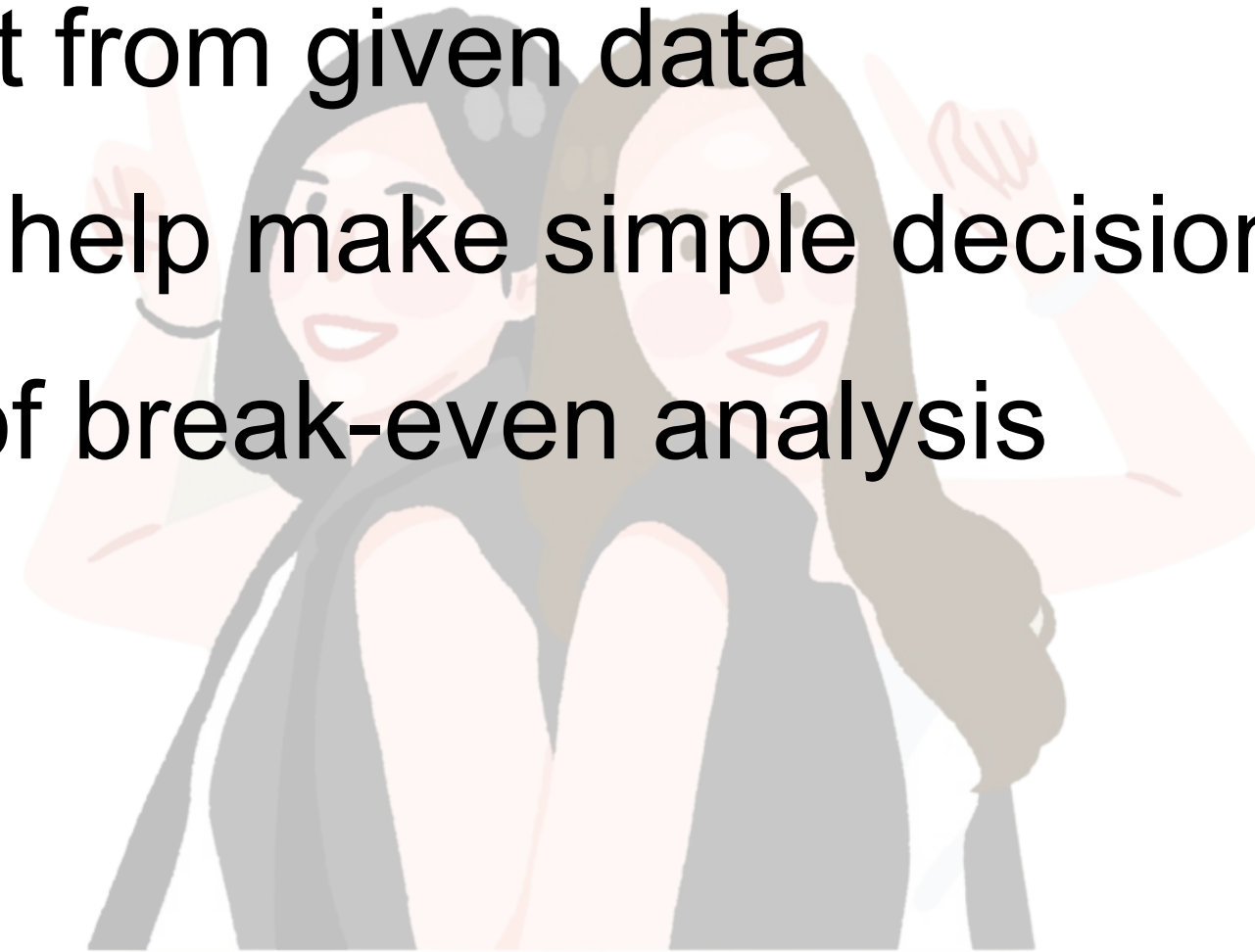


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Overviews

1. The concept of break-even
2. Construct and complete a simple break-even chart
3. Calculate break-even output from given data
4. Use break-even analysis to help make simple decisions, e.g. impact of higher price
5. Understand the limitations of break-even analysis

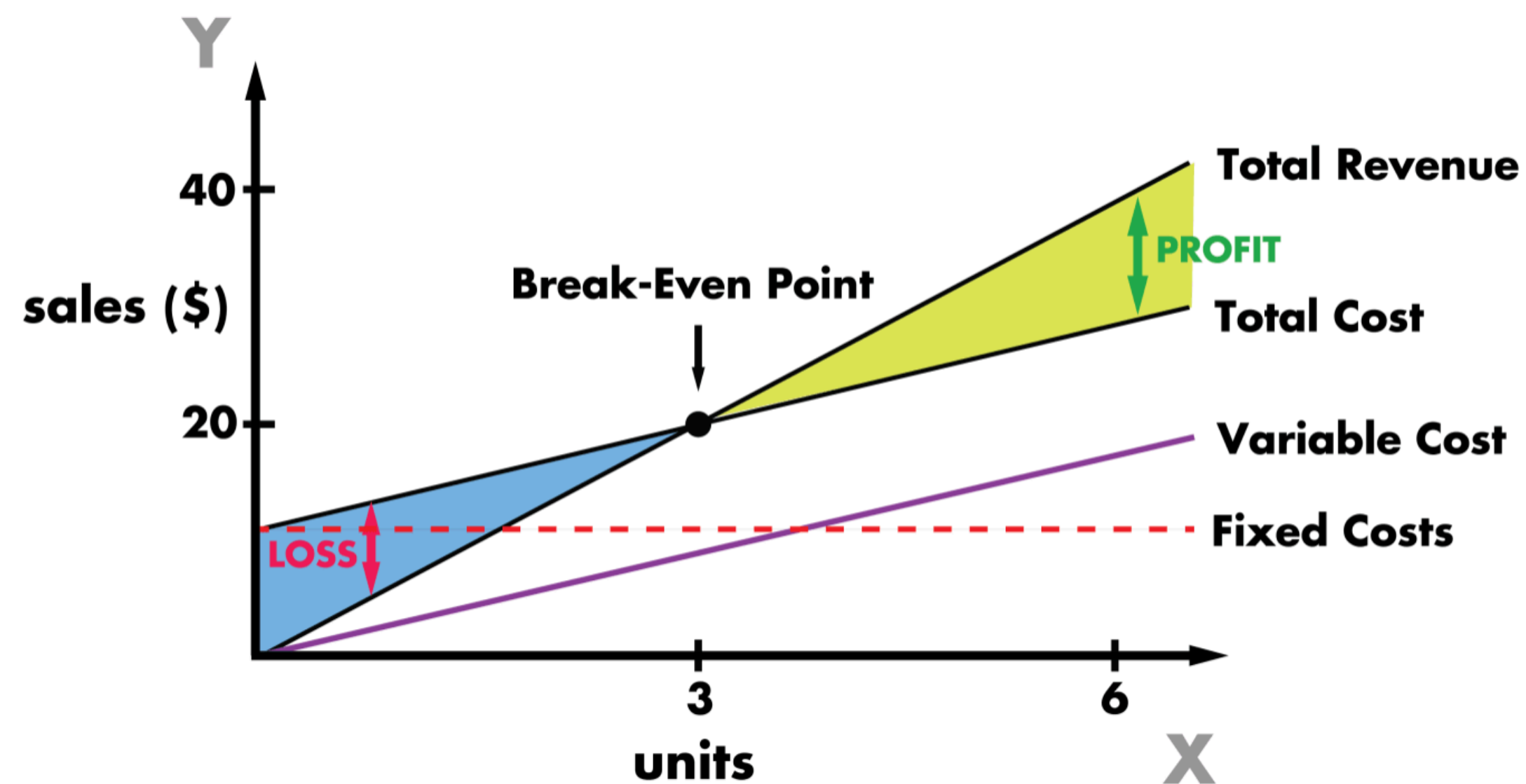


1. The concept of break-even

Break-even point : quantity of output that must be produced in order to cover total cost but not generate profit (At Q_{be} : total revenue = total cost, profit=0)

Break-even charts : are graphs which show how costs and revenues of a business change of sales. They show the level of sales the business must make in order to break even.

Margin of safety : the amount by which sales exceed the break-even point.



• Break-even level of output = units

• If a firm produces at 6 units
Margin of safety = units

2. Construct and complete a simple break-even chart

E.g. ABC company is a bakery shop.

- Fixed costs are ₱6,000
- Variable costs ₱20 per unit of bread
- Price of bread is ₱50
- The bakery shop can produce a maximum output at 500 units

	Sales = 0 unit	Sales = 200 units	Sales = 500 units
Fixed cost			
Variable cost			
Total cost			
Revenue			



3. Calculate break-even output from given data

E.g. ABC company is a bakery shop.

- Fixed costs are ₱6,000
- Variable costs ₱20 per unit of bread
- Price of bread is ₱50

Break-even level of output is where Total revenue = Total cost

Find out the quantity of output at break-even point

Step1 : Q_{be} : Total cost = Total revenue or Profit = 0

Step2 : Fixed cost + Variable cost = Total revenue

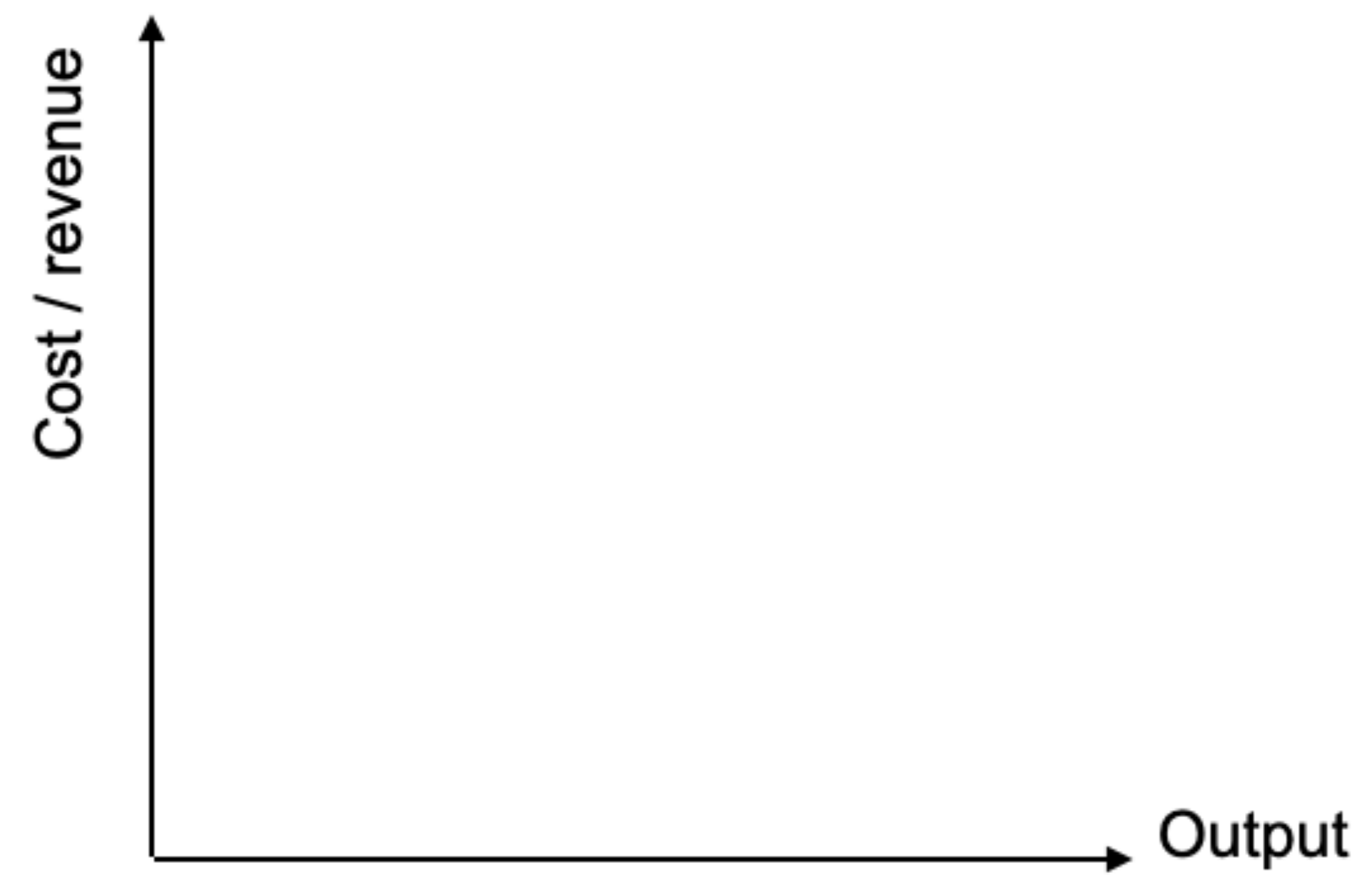
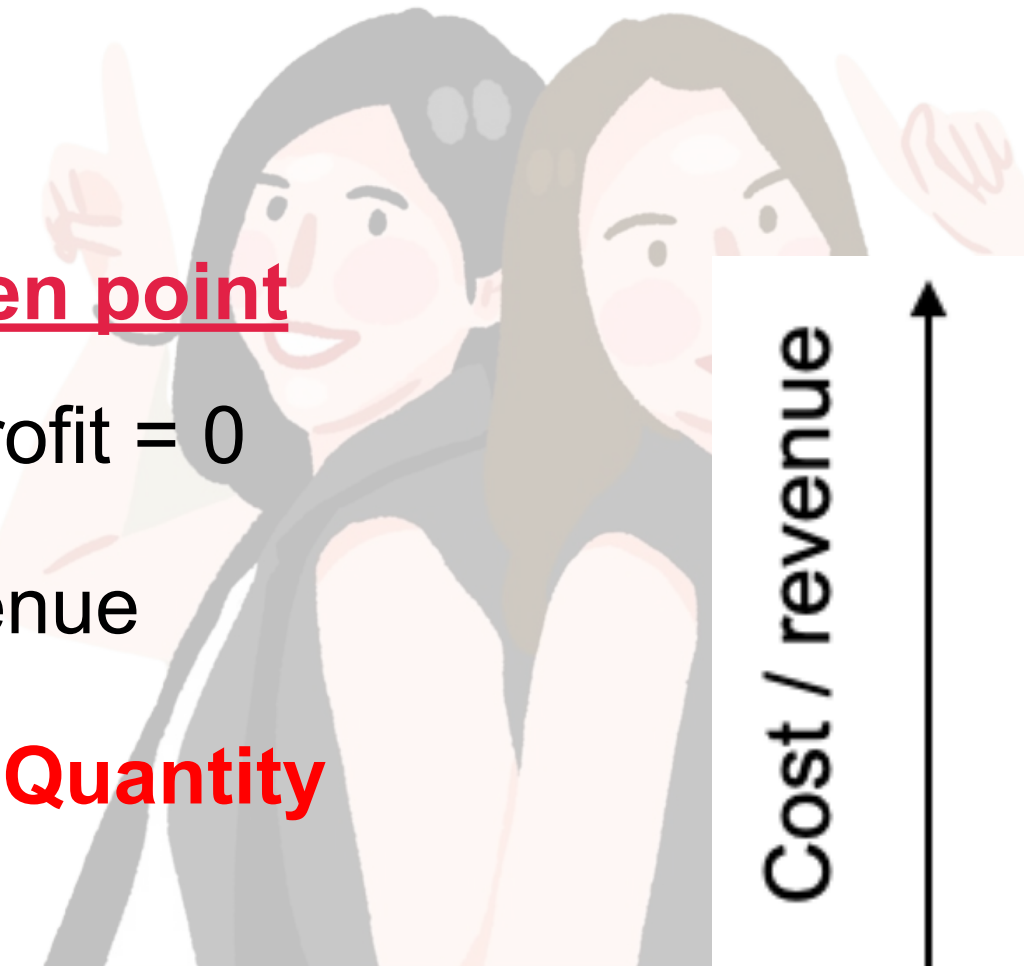
$$\dots\dots\dots + \dots\dots\dots = \text{Price} \times \text{Quantity}$$

Step3 : Find out quantity at break-even point

$$\dots\dots\dots = \dots\dots\dots$$

$$\dots\dots\dots = \dots\dots\dots$$

$$\text{Quantity} = \dots\dots\dots \text{ units}$$



3. Calculate break-even output from given data

E.g. ABC company is a bakery shop.

- Fixed costs are ₱6,000
- Variable costs ₱20 per unit of bread
- Price of bread is ₱50

$$\text{Break-even level of output} = \frac{\text{Fixed cost}}{\text{Price} - \text{Average variable cost}}$$

$$\text{Contribution per unit} = \text{Price} - \text{Average variable cost}$$

Find out the quantity of output at break-even point

Step1 : Find Contribution per unit

$$\text{Contribution per unit} = \text{Price} - \text{AVC}$$

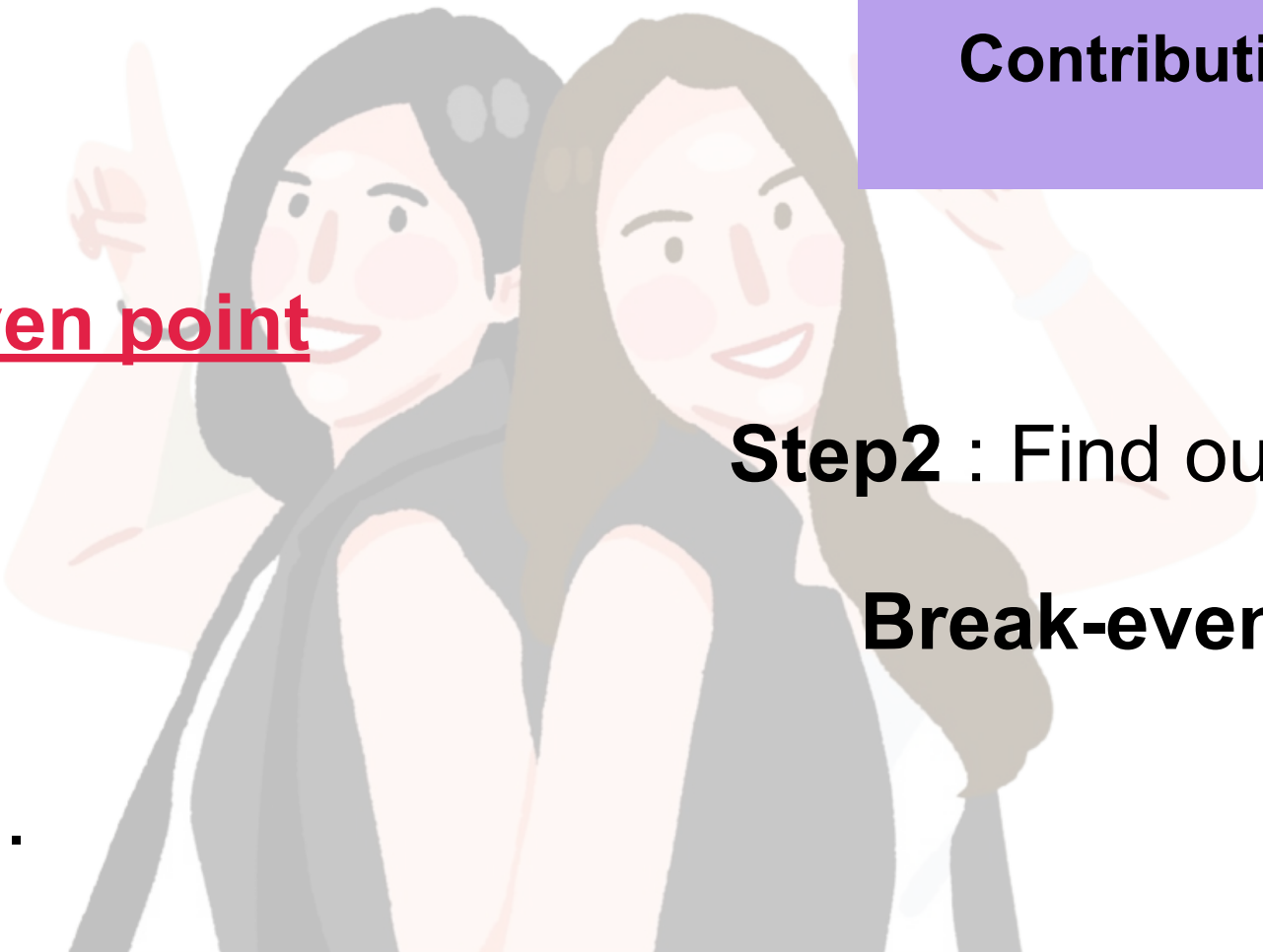
Contribution per unit =

Contribution per unit =

In order to break even, the business must make bread which has contribution each, to cover the fixed cost of ₱ 6,000.

Step2 : Find out quantity at break-even point

$$\text{Break-even level of output} = \frac{\text{Fixed cost}}{\text{Price} - \text{AVC}}$$



4. Use break-even analysis to help make simple decisions, e.g. impact of higher price

E.g. ABC company is a bakery shop.

- Fixed costs are ₱6,000
- Variable costs ₱20 per unit of bread
- Price of bread increases from ₱50 to ₱60

Find out the quantity of output at break-even point when price of bread increases from ₱50 to ₱60

Step1 : Find Contribution per unit

$$\text{Contribution per unit} = \text{Price} - \text{AVC}$$

$$\text{Break-even level of output} = \frac{\text{Fixed cost}}{\text{Price} - \text{Average variable cost}}$$

$$\text{Contribution per unit} = \text{Price} - \text{Average variable cost}$$

Step2 : Find out quantity at break-even point

$$\text{Break-even level of output} = \frac{\text{Fixed cost}}{\text{Price} - \text{AVC}}$$

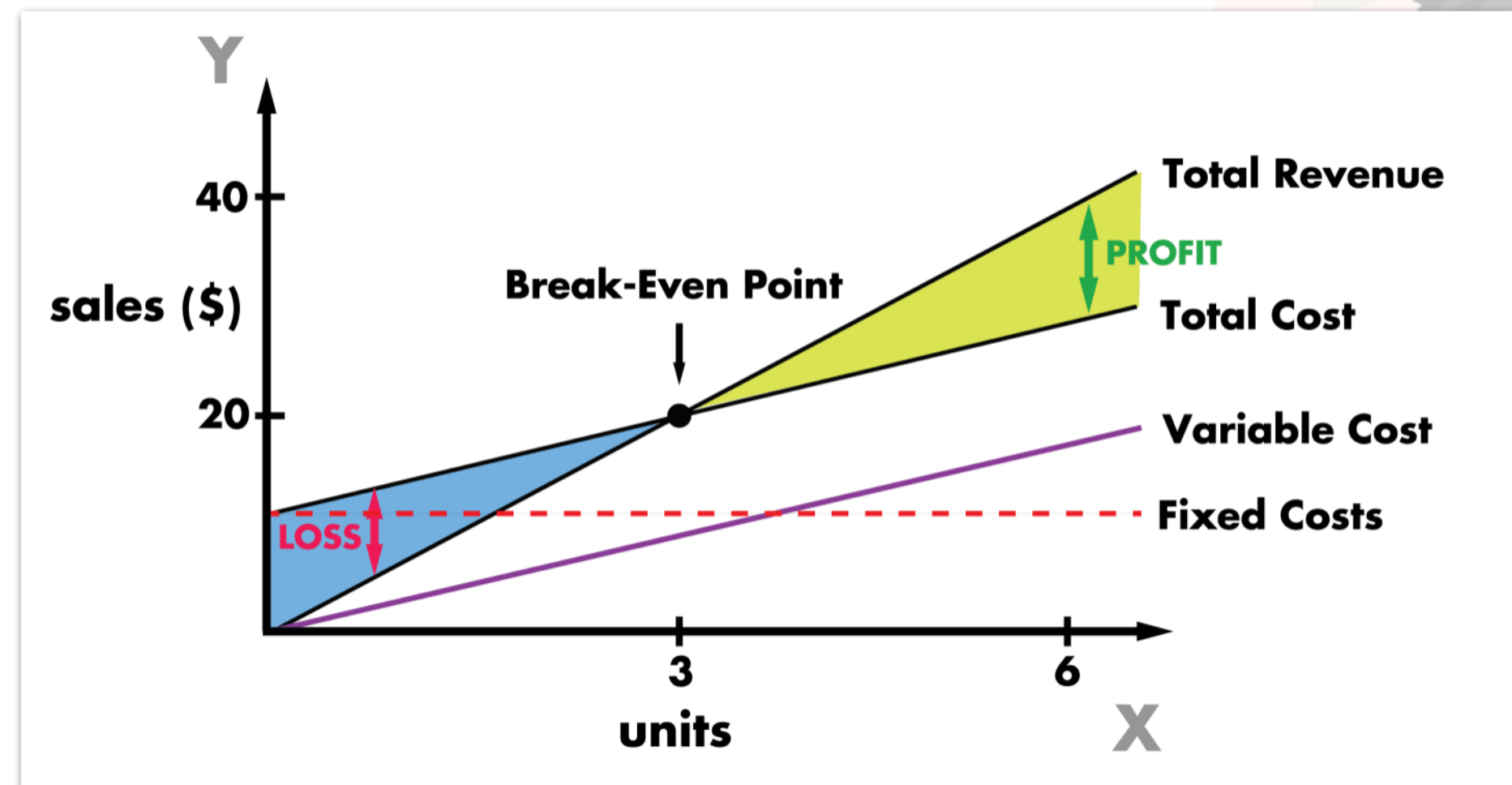
In order to break even, the business must make bread which has contribution each, to cover the fixed cost of ₱6,000.

Step3 : **When price increases, it break-even level of output.**

5. Understand the limitations of break-even analysis

Advantages of break-even charts

1. It shows the *expected profit or loss* to be made at any level of output.
2. It shows *the safety margin* - the amount where sales exceed the break-even point.



Disadvantages of break-even charts

1. It is assumed that all products are sold. It does *not reflect the effects of inventories built up* when not all goods are sold.
2. It is assumed that fixed costs are constant. In the reality, *fixed costs can increase* when the scale of production rises significantly.
3. Break even point *does not concern other aspects* e.g. how to reduce cost and increase sales revenue.
4. It is assumed costs and revenues are drawn with straight lines. In reality, when production rises, the *slope of variable cost lines maybe more steeply upwards* as firms may get discount from buying raw materials in bulk.

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Exercise: Costs, scale of production and break-even analysis



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Exercise

1. XYZ company produces bicycle. The company has costs, price, and sales as following information

Information about costs, price, and sales for XYZ company	
Fixed cost per month	\$1800
Variable cost per a bicycle	\$120
Price of a bicycle	\$220
Average sales per month	22 units

Calculate the break-even level of output for XYZ by using the information (2)

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Fixed cost per month	\$1800
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Price of a bicycle	\$220
Average sales per month	22 units

Calculate the break-even level of output for XYZ by using the information (2)

$$\text{Break-even level of output} = \frac{\text{Fixed cost}}{\text{Price} - \text{Average variable cost}}$$

Exercise

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Calculate the margin of safety for XYZ by using the information (2)

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Exercise

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Calculate the margin of safety for XYZ by using the information (2)

Margin of safety = Actual output - Break-even output

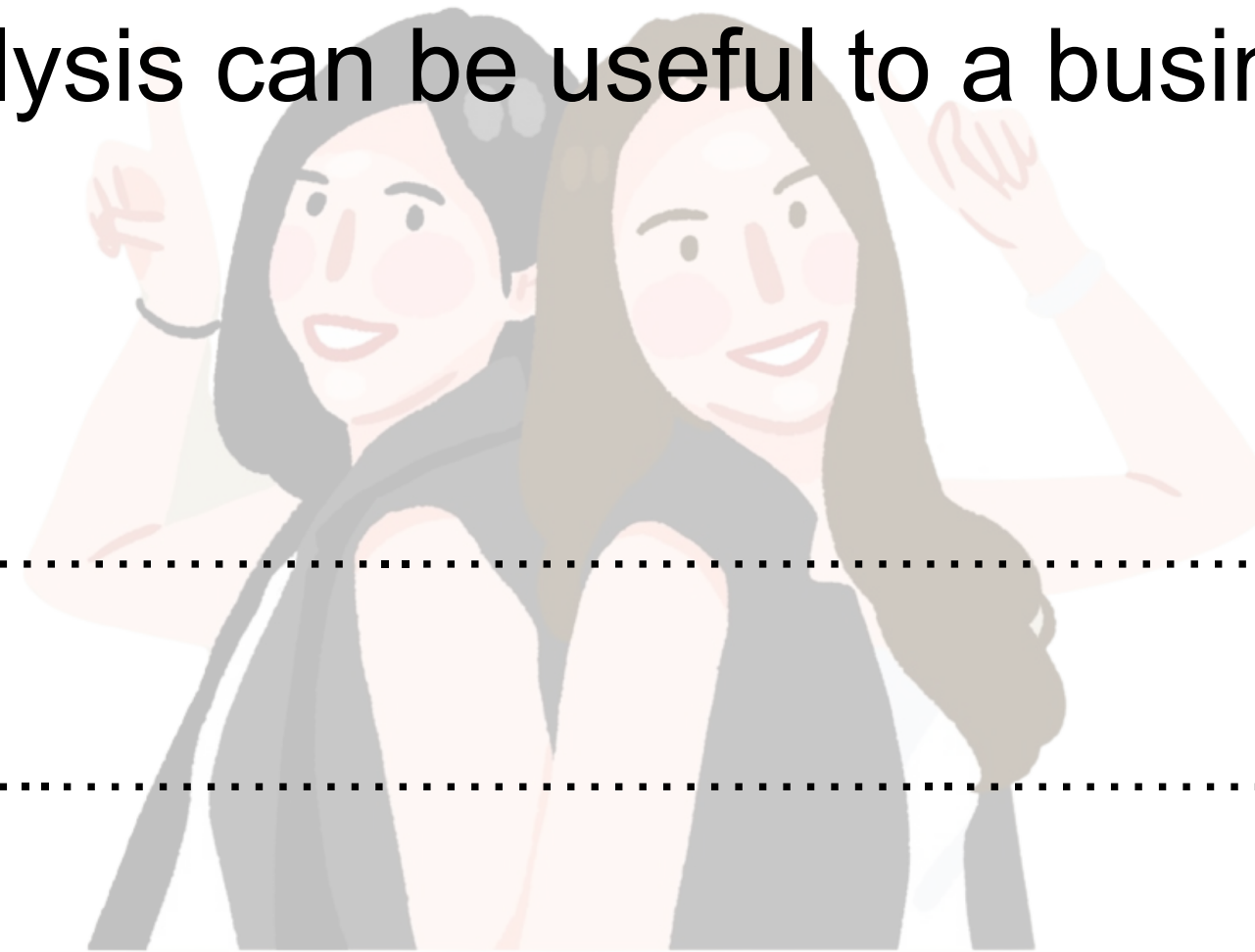
Exercise

1. XYZ company produces bicycle. The company has costs, price, and sales as following information

Identify **two** ways break-even analysis can be useful to a business (2)

Way 1 :

Way 2 :



Exercise

1. XYZ company produces bicycle. The company has costs, price, and sales as following information

Identify **two** ways break-even analysis can be useful to a business (2)

- To predicts how many sales of bicycles the business must produce in order to break-even
- To show profit and loss for the business at any quantity level
- To predicts how much sales of bicycles could fall by and the business still makes a profit
- To show the effect of change in price on the break-even level of output and level of profit
- To show the effect of change in cost on the break-even level of output and level of profit

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