CHAPTER 5

FINANCIAL PLANNING

หัวข้อเนื้อหา

- Definition of Financial Planning
- Sources of funds for business
- Benefits of Financial Planning
- financial planning tools
- Cost-Volume-Profit Analysis
- leverage analysis
- Budgeting
- Forecasting Capital Needs

DEFINITION OF FINANCIAL PLANNING

Financial planning means preparing future financial information in advance. By showing numbers to determine the direction and direction of the business. To meet the goals set effectively.

SOURCES OF FUNDS FOR BUSINESS

- **internal funding source**
- **external funding sources**

BENEFITS OF FINANCIAL PLANNING

1. **Helps to control operations according to the plan that has been set.**
2. **Helps to create good coordination within the business.**
3. **Help measure the efficiency of business executives.**
4. **Help executives to know the need for capital in the future.**

FINANCIAL PLANNING TOOLS

1. **cost – volume - profit analysis**
2. **leverage analysis**
3. **planning for financial budget**
4. **Forecasting Capital Needs**

COST – VOLUME - PROFIT ANALYSIS

cost – volume - profit analysis is an analysis of the relationship between cost, sales volume and profit in order to set the sales target of the business.

The most popular techniques for analysis are Break even point Means finding the sales volume that makes the total revenue equal to the total cost. Or finding the sales volume that makes the net profit equal to zero.

THE DATA USED IN THE BREAK-EVEN ANALYSIS INCLUDE:

1. **total revenue**

total revenue are the product of sales volume and selling price per unit. The total income will vary according to the sales volume.

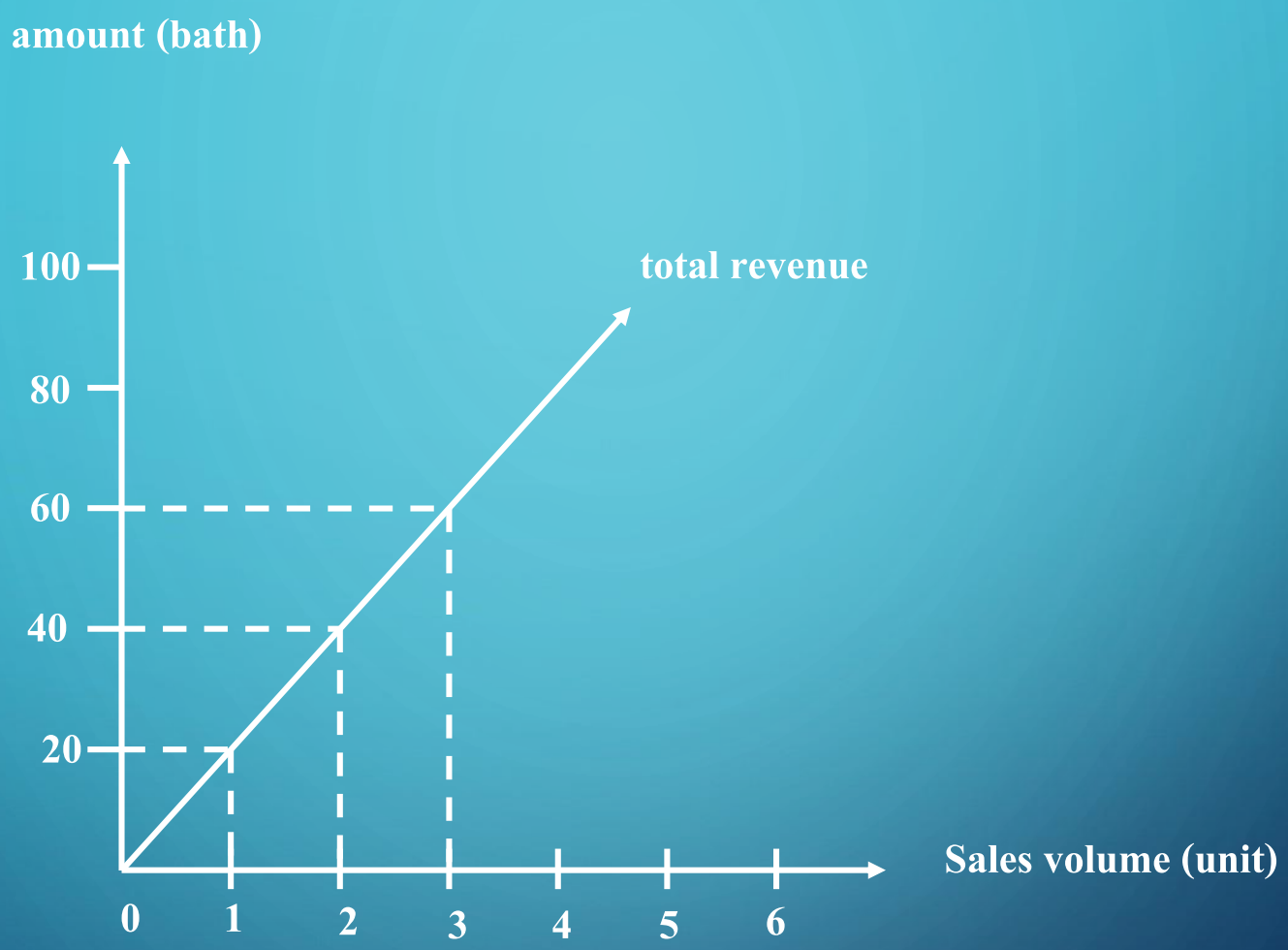

Chart 5.1 Number of total revenue

2. total cost

total cost are the sum of fixed costs and variable costs.

2.1 Fixed cost is the basic cost that SMEs have to pay. no matter how much it is produced or soldThere are costs that must be paid the same, such as the cost of buying machinery

2.2 variable costs are the cost that changes according to the level of activities, in the same proportion as changes in the amount or level of activities, i.e. direct material costs, wagesdirect labor, electricity cost

Example 5.1 Rumruay Co., Ltd. agrees to lease an office at 3,000 baht per month. The company has sales volumes of 100, 200, 300, 400 and 500 units per month respectively. Fixed costs are shown in Figure 5.2.

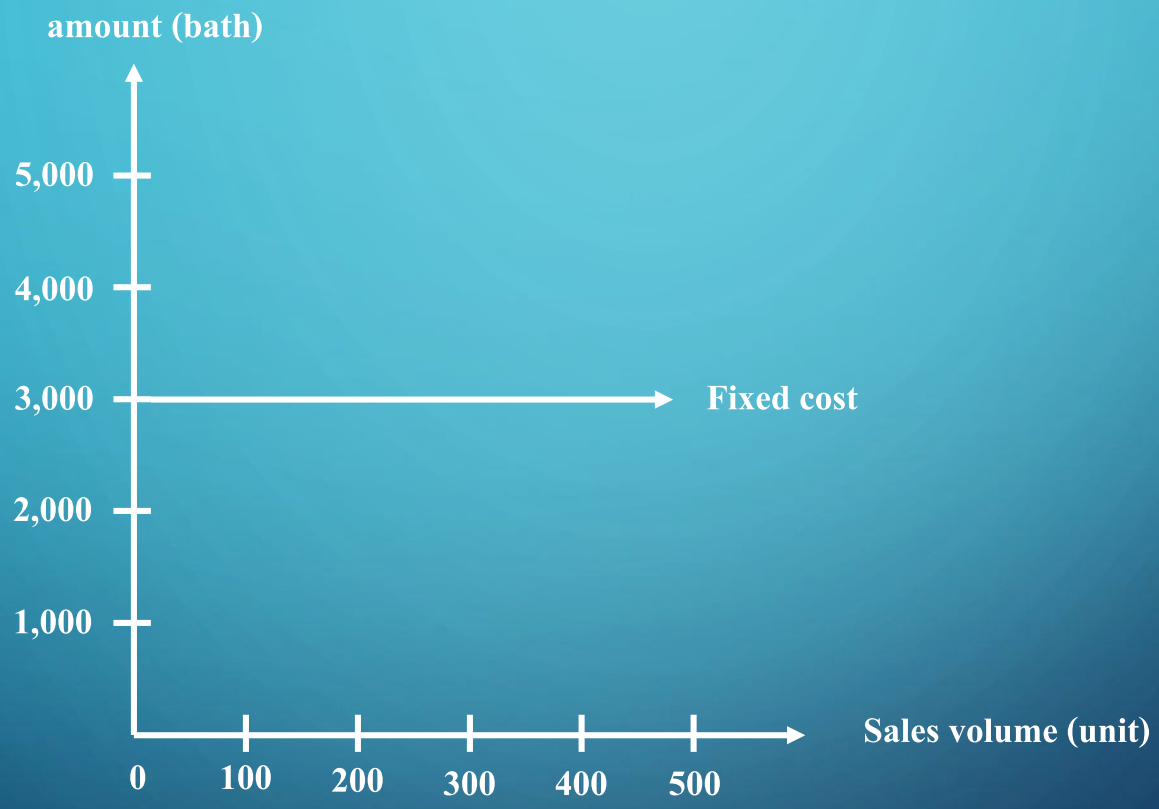

Chart 5.2 Amount of fixed costs

Example 5.2 Rumruay Company Limited has monthly sales volume of 100, 200, 300, 400, 500, 600 units respectively. The amount of 500 baht, the semi-variable cost, is shown in Figure 5.3.

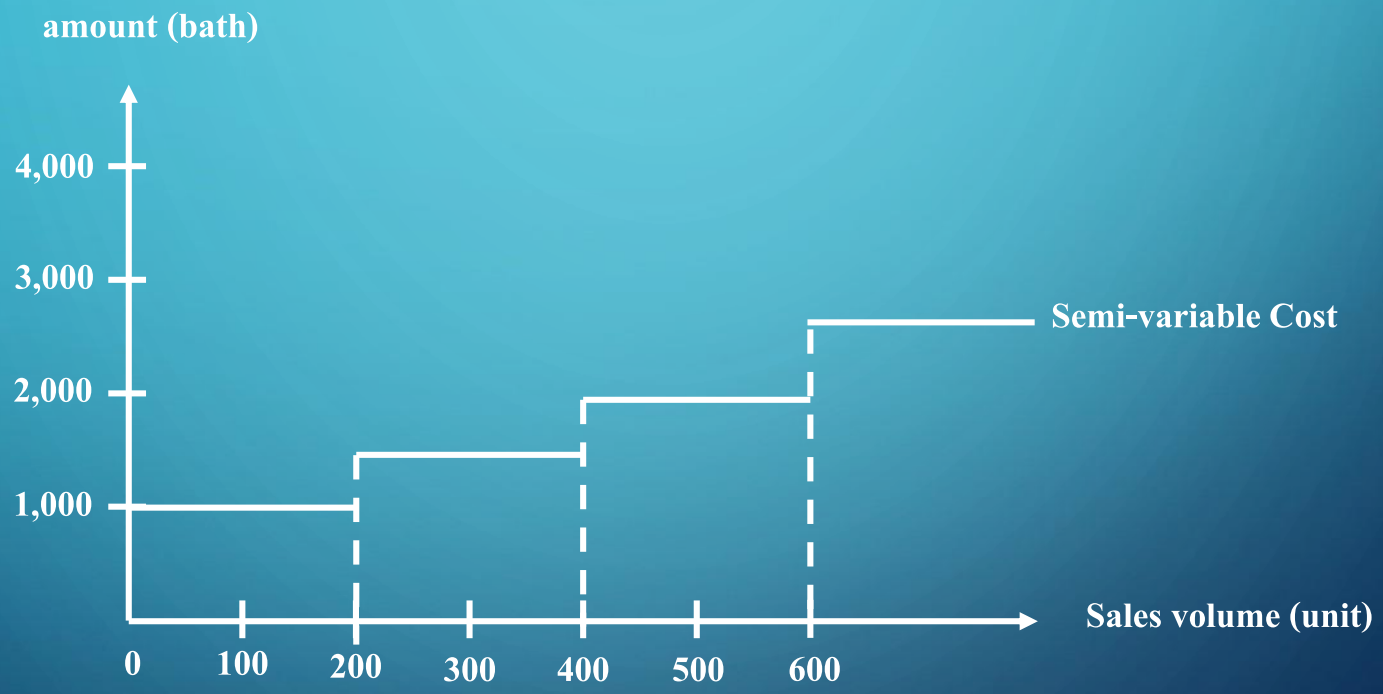

Chart 5.3 Amount of semi-variable costs

2.2 VARIABLE COST

Example 5.3 Ruay Co., Ltd. bought a pen and sold it. The cost price is 10 baht per pen. The company can sell 100, 200, 300, 400, 500 and 600 pen per month, respectively. Variable costs are shown in Figure 5.4.

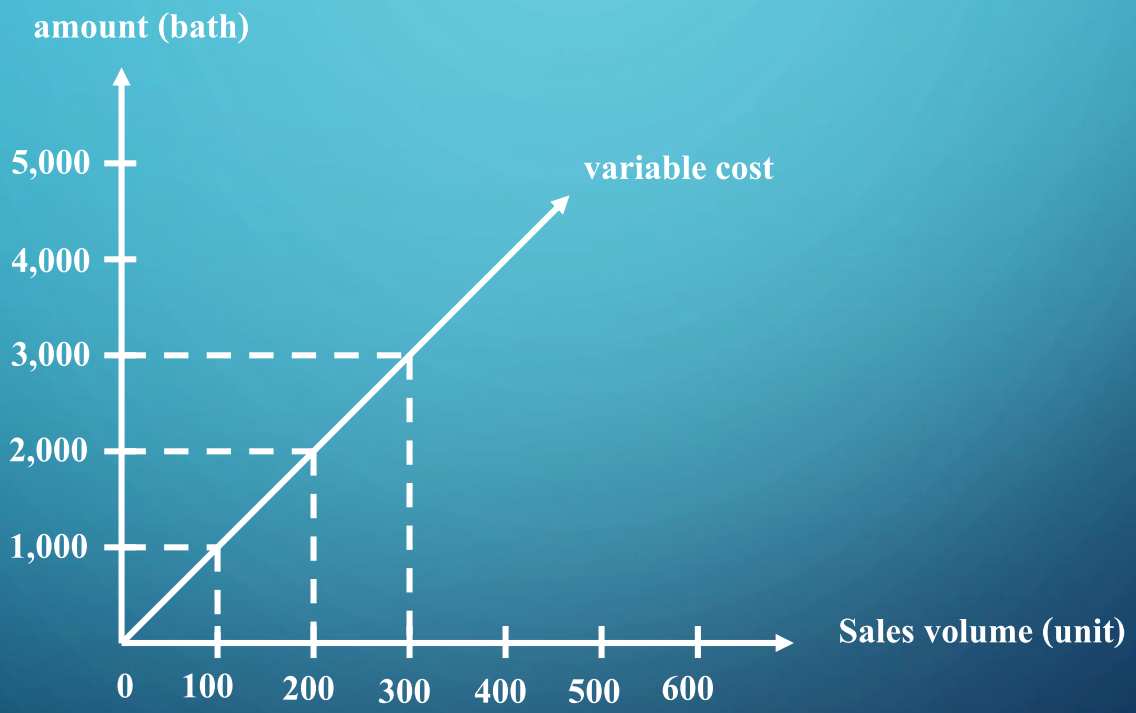

Chart 5.4 Amount of variable costs

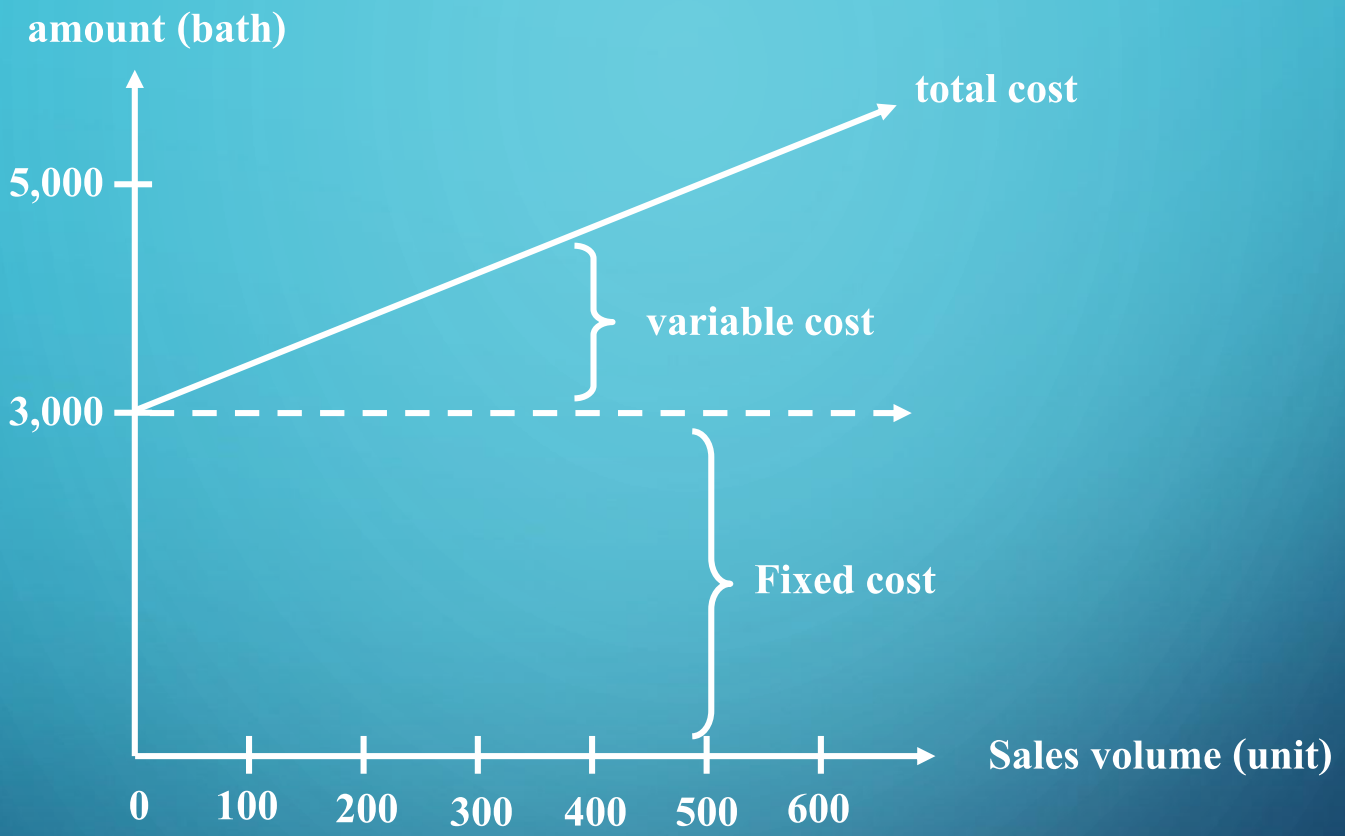

Chart 5.5 Total cost amount

1. How to find the break-even point from the graph

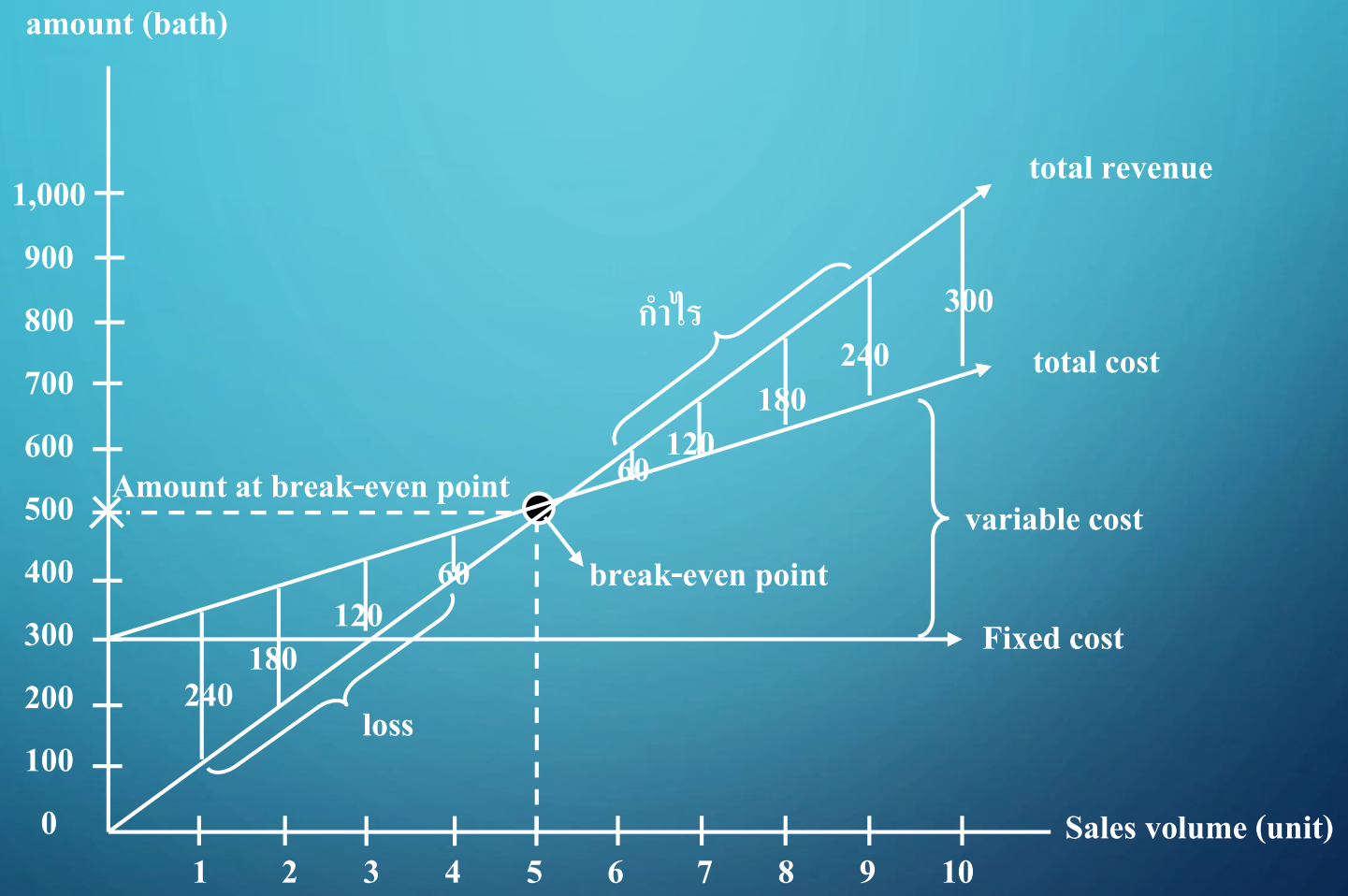

Chart 5.6 Analysis of the break-even point from the graph

2. How to find the break-even point from the table

(1) Sales volume	(2) gross sales (Sales volume x Selling price per unit)	(3) fixed cost (baht)	(4) Total variable costs (Sales volume x Cost variable per unit)	(5)=(3+4) total cost (baht)	(6)=(2-5) Profit (Loss) (baht)
0	0 x 100 = 0	300	0 x 40 = 0	300	(300)
1	1 x 100 = 100	300	1 x 40 = 40	340	(240)
2	2 x 100 = 200	300	2 x 40 = 80	380	(180)
3	3 x 100 = 300	300	3 x 40 = 120	420	(120)
4	4 x 100 = 400	300	4 x 40 = 160	460	(60)
5	5 x 100 = 500	300	5 x 40 = 200	500	0
6	6 x 100 = 600	300	6 x 40 = 240	540	60
7	7 x 100 = 700	300	7 x 40 = 280	580	120
8	8 x 100 = 800	300	8 x 40 = 320	620	180
9	9 x 100 = 900	300	9 x 40 = 360	660	240
10	10 x 100 = 1,000	300	10 x 40 = 400	700	300

3. HOW TO FIND THE BREAK-EVEN POINT FROM THE EQUATION

from the equation	**total revenue**	**=**	**Fixed cost + variable cost + desired profit**
Or	**TR**	**=**	**FC + VC + desired profit**
	TR	**=**	**selling price per unit (P) x sales volume (Q)**
	VC	**=**	**Variable cost per unit (VC/unit) x sales volume (Q)**

Suppose the company has a sales volume of Y units.

Therefore, the sales volume at the break-even point is calculated as follows:

	P x Q	**=**	**FC + (VC/unit x Q) + desired profit**

When Q=Y and desired profit= 0

represent	100 x Y	=	300 + (40 x Y) + 0
	100Y – 40Y	=	300
	60Y	=	$\frac{300}{60}$
	Y	=	5

The volume of umbrella sales at the break-even point is 5 units.

If the company wants to make a profit of 240 baht, how many umbrellas must be sold?

The calculation can follows.

$$100 \times Y = 300 + 40Y + 240$$

$$100Y - 40Y = 540$$

$$60Y = 540$$

$$Y = \frac{540}{60} = 9$$

Therefore, must sell 9 umbrellas in order to get a profit of 240 baht.

4. HOW TO USE THE FORMULA

In case the required profit is equal to zero (0)

$$Q^* \text{ (unit)} = \frac{FC}{P - VC/unit} \quad \text{--------- (1)}$$

Q* = Sales volume at break-even point (units)

$$TR^* \text{ (bath)} = P \times Q^* \quad \text{---------- (2)}$$

when TR^* = Gross revenue at break-even point

$$\text{excess profit (CM) (บาท)} = P - VC/\text{unit} \quad \text{--------- (3)}$$

OPERATING LEVERAGE

1. **Operating leverage**

It is a tool used to measure levels. Operational Risk arising from the use of fixed assets.

$$\text{DOL (times)} = \frac{Q(P - VC/unit)}{Q(P - VC/unit) - FC} \quad \text{--------- (7)}$$

EXAMPLE 5.5 RUMRUAY CO., LTD. PRODUCES AND SELLS LUGGAGE, SELLING PRICE IS 1,250 BAHT PER ITEM, VARIABLE COSTS ARE 750 BAHT, AND FIXED OPERATING COSTS TOTAL 4,000,000 BAHT. CURRENTLY, THE COMPANY SELLS 10,000 AND 12,000 BAGS PER YEAR. THE USE OF OPERATING ASSETS ACCORDING TO THE ABOVE FORMULA IS SHOWN AS FOLLOWS:

formula **DOL (Times)** $= \dfrac{Q(P - VC/unit)}{Q(P - VC/unit) - FC}$

at the sales volume 10,000 **unit**

DOL (Times) $= \dfrac{10{,}000(1{,}250 - 750)}{10{,}000(1{,}250 - 750) - 4{,}000{,}000}$

$= \dfrac{5{,}000{,}000}{5{,}000{,}000 - 4{,}000{,}000}$

DOL $= \dfrac{5{,}000{,}000}{1{,}000{,}000} =$ **5 times**

at the sales volume 12,000 unit

$$\text{DOL (Times)} = \frac{12{,}000(1{,}250 - 750)}{12{,}000(1{,}250 - 750) - 4{,}000{,}000}$$

$$= \frac{6{,}000{,}000}{6{,}000{,}000 - 4{,}000{,}000}$$

$$= \frac{6{,}000{,}000}{2{,}000{,}000} = 3 \text{ Times}$$

DOL ANALYSIS WITH BREAK-EVEN POINTS

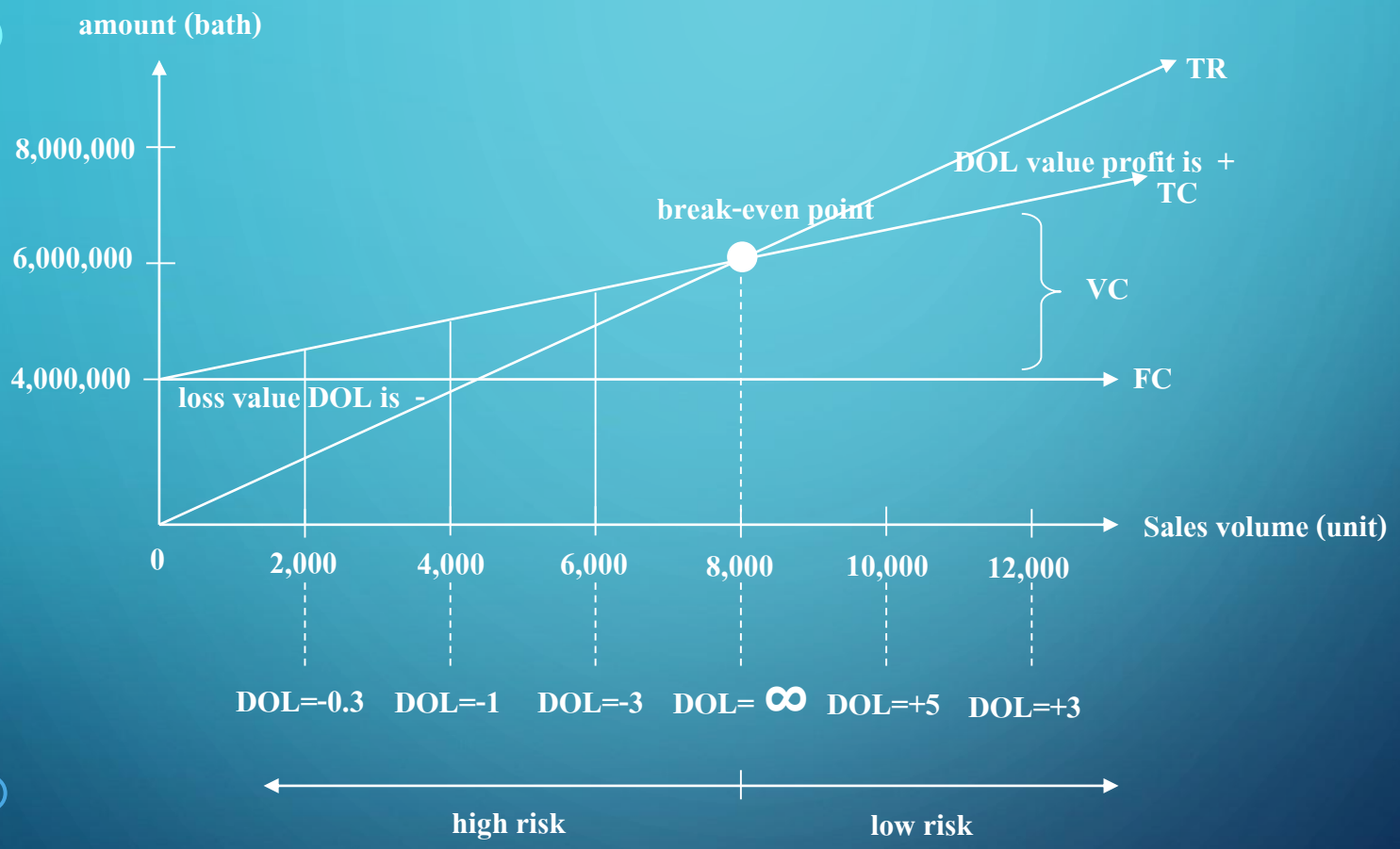

Figure 5.7 DOL analysis with break-even point

2. Financial leverage

Financial leverage It is a tool used to measure the level of financial risk.

$$\text{DFL (times)} = \frac{Q(P - V/\text{unit}) - FC}{Q(P - V/\text{unit}) - FC - I} \quad \text{---------- (8)}$$

EXAMPLE 5.6 FROM THE INFORMATION IN EXAMPLE 5.5, IF RUMRUAY COMPANY LIMITED HAS FINANCIAL EXPENSES, I.E. INTEREST EXPENSES IN THE AMOUNT OF 200,000 BAHT AT SALES VOLUMES OF 10,000 AND 12,000 UNITS, TAX RATE IS 40%, THE DFL CALCULATION IS SHOWN AS FOLLOWS.

$$\text{จากสูตร DFL (times)} = \frac{Q(P - V/unit) - FC}{Q(P - V/unit) - FC - 1}$$

at the sales volume 10,000 unit

$$\text{DFL (times)} = \frac{10{,}000(1{,}250 - 750) - 4{,}000{,}000}{10{,}000(1{,}250 - 750) - 4{,}000{,}000 - 200{,}000}$$

$$= \frac{1{,}000{,}000}{800{,}000} = 1.25 \text{ times}$$

at the sales volume 12,000 unit

$$\text{DFL (times)} = \frac{12{,}000(1{,}250 - 750) - 4{,}000{,}000}{12{,}000(1{,}250 - 750) - 4{,}000{,}000 - 200{,}000}$$

$$= \frac{2{,}000{,}000}{1{,}800{,}000} = 1.11 \text{ time}$$

3. Total leverage

total leverage It is a tool used to measure the total risk arising from the use of operating assets and financing . (degree of total leverage หรือย่อว่า DTL)

$$DTL\ (time) = DOL \times DFL \quad \text{---------- (9)}$$

EXAMPLE 5.7 AS A RESULT OF EXAMPLES 5.5 AND 5.6, RICH COMPANY LIMITED WILL HAVE A LEVEL OF UTILIZATION OF OPERATING ASSETS. AND TOTAL FINANCING (DTL) AS FOLLOWS:

DTL = DOL x DFL

at the sales volume 10,000 unit

DTL = 5 x 1.25 = 6.25 times

at the sales volume 12,000 unit

DTL = 3 x 1.11 = 3.33 times

BUDGETING

1. **Analyze business performance in the past and present.**
2. **Prepare projections of future sales.**
3. **Prepare fixed asset procurement estimates.**
4. **Prepare a cash budget.**
5. **prepare financial statements in advance**
6. **Make a financial plan to finance the required amount from external sources.**
7. **Apply the financing policy to adjust the financial statements in advance.**

FORECASTING CAPITAL NEEDS

percent of sales method

Means forecasting sales by using variables from forecasting future sales.

1. **Calculate percentage of capital acquisition = percentage of short-term debt to current sales.**
2. **Calculate percentage utilization of funds = percentage assets to current sales.**
3. **Calculate the percentage increase in demand for money (item 2 minus 1) = percentage assets to sales – percentage of short-term liabilities to sales.**
4. **Calculate total demand for money = Percentage of demand x (next year sales - current year sales)**
5. **Calculate available funds from internal sources or the amount of future retained earnings will increase from the present = next year's net profit - next year's dividend payment.**
6. **Calculate external funding requirements = total money demand – available internal funding.**

The following example is the financial position (balance sheet) and income statement of Rich Company Limited as of December 31, 20X1, assuming that in 20X2, the company forecasts a 10% increase in sales.

Table 1 Forecast of money demand according to the percentage of sales method of the income statement

list	Income statement 25x1 (thousand baht)	percentage of sales (%)	Advance income statement 20x2 (thousand baht)
net sales	1,000	100	1,100
Less cost of goods sold	600	60	660
gross profit	400	40	440
Less operating expenses			
cost of service	80	8	88
salary	60	6	66
office rent	40	4	44
profit before tax	220	22	242
Less tax (40%)	88	8.80	96.80
net profit after tax	132	13.20	145.20

From Table 1, it can be explained that the Rumruay company forecasting an additional 10% of sales in the year 20x2 will result in the year 20x2 net profit after tax increasing from 132 to 145.20 thousand baht.

Table 2 Forecast of money demand by the percentage-to-sales method of the statement of financial position (balance sheet)

item	(1) balance Sheet 20x1(thousand baht)	(2) percentage of sales (%)	(3)=(1+2) advance balance sheet 25x2 (thousand baht)	Funds increase automatically	Additional funds required
Asset					
current assets					
Cash	800	80	880		
debtor	1,200	120	1,320		
bills received	800	80	880		
Inventories	1,000	100	1,100		
prepaid expenses	200	20	220		
Total current assets	4,000	400	4,400		
Non-current assets					
Land, building, office equipment	2,400	240	2,640		
total assets	6,400	640	7,040		

list	(1) balance Sheet 20x1(thousand baht)	(2) percentage of sales (%)	(3)=(1+2) advance balance sheet 25x2 (thousand baht)	Funds increase automatically	Additional funds required
Liabilities and Owner's Equity					
current liabilities					
trade payable	1,000	100	1,100	100	
bills paid	800	80	880	80	
accrued expenses	600	60	660	60	
Total current liabilities	2,400	240	2,640	240	
long term debt					
long term loan	1,800	-	(1)2,054.80		254.80
Total Liabilities	4,200	420	4,694.80		
Equity					
common stock	520	-	520		
share premium	480	-	480		
Profit earnings	1,200	-	(2)1,345.20	145.20	
Total Equity	2,200	220	2,600		
Total Liabilities and Owner's Equity	6,400	640	7,040	รวม 358.20	

Annotations (1) and (2)

(1) It is financing from external sources by borrowing another 254.80 plus 1,800 of the original long-term loan, totaling 2,054.80, which can be seen in details from the calculation accompanying number (1) below.

(2) Retained earnings increased from net profit in 20x2 equal to 145.20 total retained earnings. 1,345.20(1,200+145.20)

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1. Fund Acquisition Percentage = Percentage of short-term debt to sales

stand for = $\frac{2,400}{1,000} x100 = 240\%$

2. Percentage of funds used = Percentage of total assets to sales

stand for = $\frac{6,400}{1.000} x100 = 640\%$

3. Percentage of demand for extra money = Capital Utilization Percentage – Capital Acquisition Percentage

stand for = 640 – 240 =400 %

4. The total amount of money needed = Demand Percentage (next year sales - current year sales)

stand for = 400% x (1,100 – 1,000)

= 400

5. Available funds from internal sources = Next year's net profit - next year's dividend payment

stand for = (13.20% of 1,100) -0

= 145.20

Computing (1) Finding external funding sources

Total demand for money = 400 (calculation result from item 4)

Less available funds from internal sources = 145.20 (calculation result from item 5)

External financing = 254.80

or (254.80 x 1,000 = 254,800 baht)