

FIXED AND VARIABLE COSTS

Fixed Costs

**those expenses that are independent of changes
in volume of activity**

Variable Costs

**those expenses that increase or decrease proportionately
with increases or decreases in volume of activity**

Semivariable (Mixed) Costs

**those expenses that vary with volume of activity,
but not necessarily proportionately,
and that may have a fixed (or sequence of fixed) components**

FLEXIBLE BUDGET

**A budget that is volume-adjusted
for variable expenses**

Best use is for planning and performance analysis

FLEXIBLE BUDGET EXAMPLE

Fixed Budget Variances, Figure 13-3, Page 295

	October			November		
	Budget	Actual	Variance	Budget	Actual	Variance
Revenue						
Revenue from members	\$6,000	\$6,600	\$600	\$6,000	\$5,700	(\$300)
Other revenue	<u>400</u>	<u>420</u>	<u>20</u>	<u>400</u>	<u>420</u>	<u>20</u>
	6,400	7,020	620	6,400	6,120	(280)
Expenses						
Food	3,000	3,200	(200)	3,000	2,800	200
Wages and salaries	1,100	1,150	(50)	1,100	1,100	0
Supplies	600	650	(50)	600	650	(50)
Utilities	500	500	0	500	500	0
Occupancy	<u>1,200</u>	<u>1,300</u>	<u>(100)</u>	<u>1,200</u>	<u>1,150</u>	<u>50</u>
Total	6,400	6,800	(400)	6,400	6,200	200
Surplus (Deficit)	0	\$ 220	\$220	0	(\$80)	(\$80)

Flexible Budget Variances, Figure 13-4, Page 297

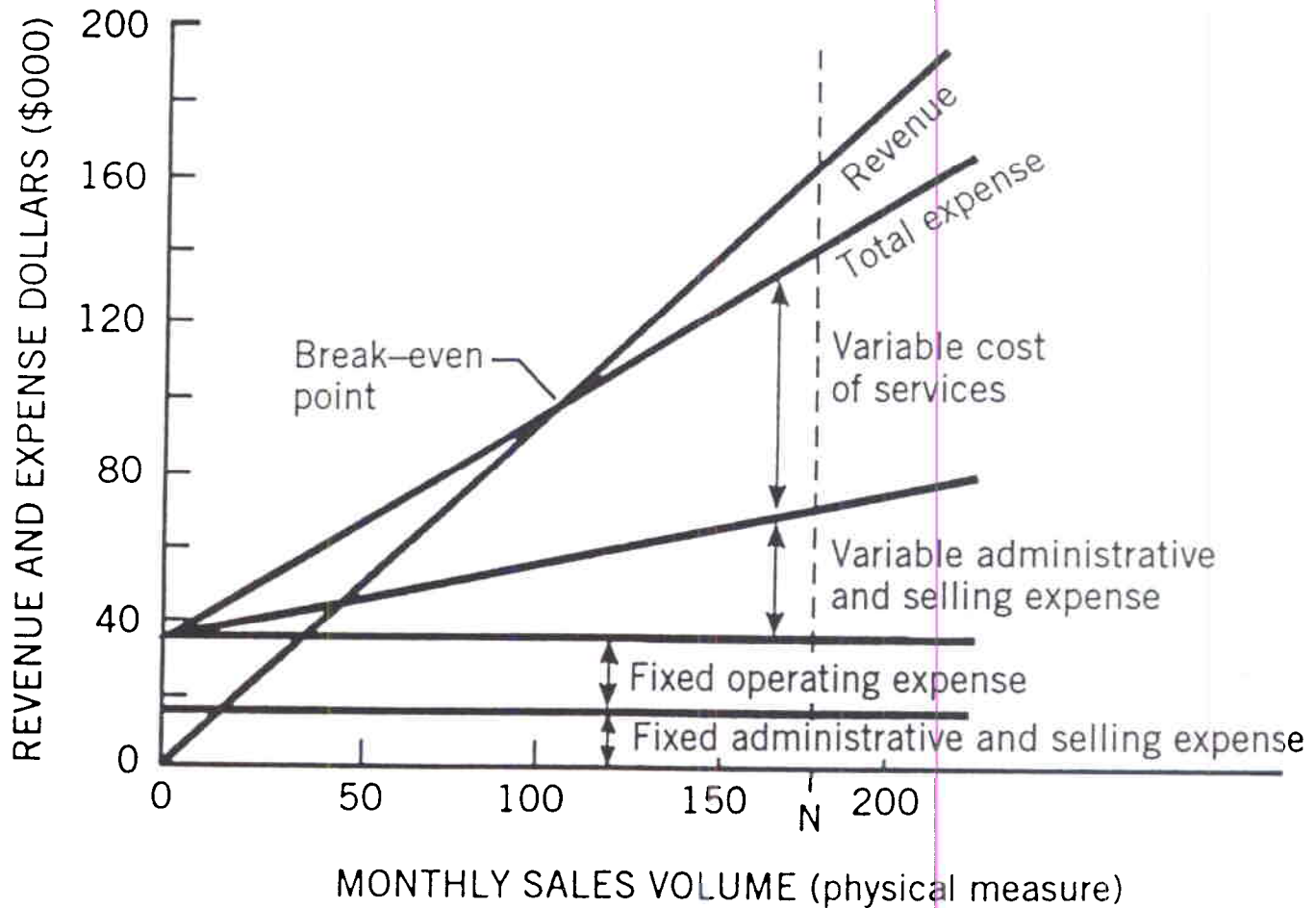
	Data for Volume-Adjusted Budget	October			November		
		Volume-Adjusted Budget*	Actual	Variance	Volume-Adjusted Budget†	Actual	Variance
Revenue							
Revenue from members	\$150/member/month	\$6,600	\$6,600	0	\$ 5,700	\$ 5,700	0
Other revenue	\$400/month	<u>400</u>	<u>420</u>	<u>\$20</u>	<u>400</u>	<u>420</u>	<u>\$20</u>
		7,000	7,020	20	6,100	6,120	20
Expenses							
Food	\$75/member/month	3,300	3,200	100	2,850	2,800	50
Supplies	\$10/member/month plus \$200/month	640	650	(10)	580	650	(70)
Wages and salaries	\$1,100/month	1,100	1,150	(50)	1,100	1,100	0
Utilities	\$500/month	500	500	0	500	500	0
Occupancy	\$1,200/month	<u>1,200</u>	<u>1,300</u>	<u>(100)</u>	<u>1,200</u>	<u>1,150</u>	<u>50</u>
		6,740	6,800	(60)	6,230	6,200	30
Surplus (Deficit)		\$ 260	\$ 220	(\$40)	(\$ 130)	(\$ 80)	\$50

* 44 members.

† 38 members.

VOLUME, PRICE, COST, PROFIT INTERRELATIONSHIPS

(Figure 13-5, Page 300)



Contribution = Revenue - Variable Cost

Contribution Margin = Contribution / Revenue

Break-Even Point:

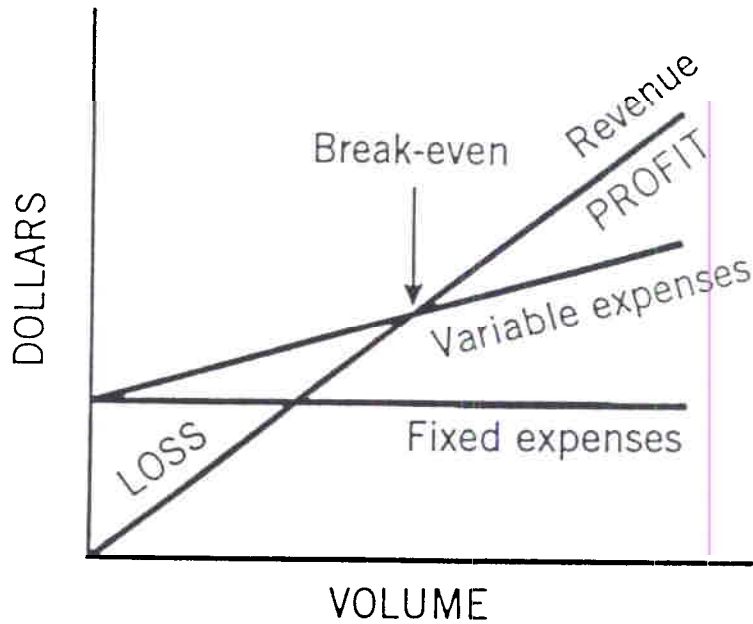
Total Revenue = Total Cost

Revenue = Fixed Cost / Contribution Margin

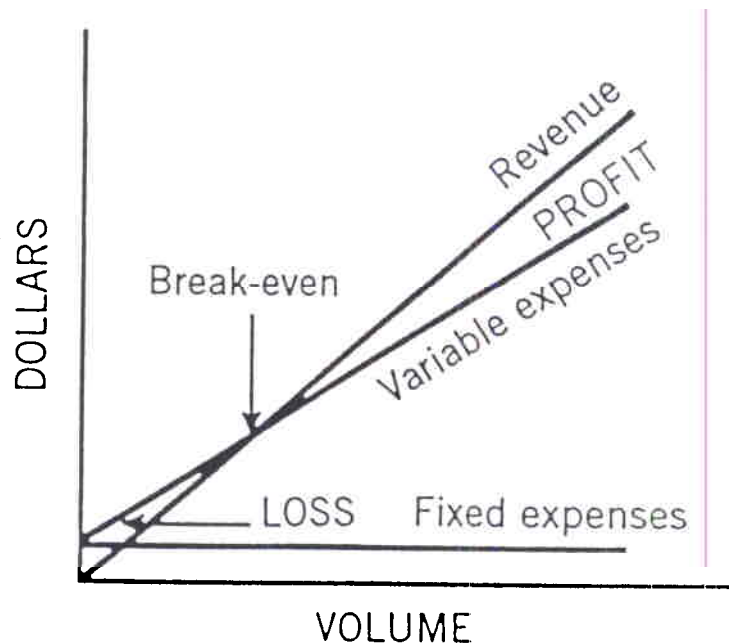
OPERATING LEVERAGE

(Figure 13-8, Page 307)

Company A - High Operating Leverage



Company B - Low Operating Leverage



page 311, #13.8: Give two examples of industries that are characterized by high operating leverage and two that are characterized by low operating leverage.

- *Industries with high operating leverage are those with a large fixed cost base.*

These could include electrical utilities, semiconductor manufacturers, and others with low total asset turnover such as commercial banks.

- *Industries with low operating leverage are those with a small fixed cost base.*

These could include personal services firms, grocery retailers, and some manufacturing firms that have high variable direct labor costs.

page 311, #13.1: What is the break-even point for a company that anticipates monthly fixed costs of \$525,000 and variable costs equal to 55 percent of sales?

Break-Even Point (BEP) is that point at which

$$\begin{aligned} \text{Total Revenues} &= \text{Total Costs} \\ &= \text{Fixed Costs} + \text{Variable Costs} \end{aligned}$$

Thus we have

$$\begin{aligned} R &= \$525,000 + 0.55R \\ \Rightarrow R &= \$1,166,667 \end{aligned}$$

page 313, #13.7: The Wilkinson Maintenance Company, a contract janitorial service, reported actual and variance results for April 1996 as follows (debit, or unfavorable, variances shown in parentheses):

	<u>April Actual</u>	<u>Variance from Fixed-dollar Budget</u>
Revenue	\$ 106,000	\$ 4,000
Expenses		
Wages	62,000	(2,200)
Salaries	12,400	200
Supplies	10,200	(600)
Transport	3,600	(200)
Depreciation	6,000	0
Miscellaneous	<u>2,800</u>	200
Total expenses	\$ 97,000	<u>\$ (2,600)</u>
Operating Profit	\$ 9,000	\$ 1,400

Wages are expected to vary directly with volume; management salaries are generally fixed, except that included in salaries is a bonus for the general manager equal to 1 percent of revenue. The general manager believes that janitorial supplies should be budgeted at 7 percent of revenue, while the balance of supplies expense is fixed. The amount of transport expense depends, in part, upon the location of the particular jobs. Depreciation and miscellaneous expenses are fixed.

- a) What was Wilkinson's flexible-budgeted profit for April?
- b) How would you evaluate the general manager's operating performance in April?

page 313, #13.7a: What was Wilkinson's flexible-budgeted profit for April?

	Actual	Fixed Budget Variance	Fixed Budget	Flexible Budget	Flexible Budget Variance
Revenues	\$106,000	\$ 4,000	\$102,000	\$106,000	\$ 0
Expenses					
Wages	\$ 62,000	\$ (2,200)	\$ 59,800	\$ 62,116	\$ (116)
Salaries	12,400	200	12,600	12,640	(240)
Supplies	10,200	(600)	9,600	9,880	(320)
Transport	3,600	(200)	3,400	3,400	(200)
Depreciation	6,000	0	6,000	6,000	0
Miscellaneous	<u>2,800</u>	<u>200</u>	<u>3,000</u>	<u>3,000</u>	<u>(200)</u>
Total Expenses	\$ 97,000	\$ (2,600)	\$ 94,400	\$ 97,036	\$ (1,176)
Operating Profit	\$ 9,000	\$ 1,400	\$ 7,600	\$ 8,964	\$ 36

Wages variable with volume

$$\Rightarrow 59,800 / 102,000 = 58.6\% \text{ of revenues}$$

Thus Flexible Budget Wages = (0.586)(106,000) = \$62,116

Salaries: Fixed Budget breakdown

$$12,600 - (0.01)(102,000) = 12,600 - 1,020 = 11,580 \text{ base} + 1,020 \text{ bonus}$$

Thus Flexible Budget Salaries

$$= 11,580 + (0.01)(106,000) = \$12,640$$

Supplies: Fixed Budget breakdown

$$9,600 - (0.07)(102,000) = 9,600 - 7,140 = 2,460 \text{ base} + 7,140 \text{ janitorial}$$

Thus Flexible Budget Supplies

$$= 2,460 + (0.07)(106,000) = \$9,880$$

page 313, #13.7b: How would you evaluate the general manager's operating performance in April?

Note that the volume-adjusted variance for the Operating Profit is very close to zero -- only \$36. This control of expenses in conjunction with a higher volume of activity constitutes excellent management performance.