CHAPTER 7

Flexible Budgets,
Direct-Cost Variances,

BASIC CONCEPTS

- Variance—difference between actual results and expected (budgeted) performance.
- Management by exception—the practice of focusing attention on areas not operating as expected (budgeted).
- Static (master) budget is based on the output planned at the start of the budget period.

STATIC BUDGET VARIANCE

Static Budget Variance

Actual	Static (Master)
AQ*AP	SQ*SP

<u>Basic Concepts</u>

- Variance—difference between actual results and expected (budgeted) performance.
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LEVEL 1 ANALYSIS, ILLUSTRATED

Level 1 Analysis

	Actual Results (1)	Static-Budget Variances (2) = (1) – (3)	Static Budget (3)
Units sold	10,000	2,000 U	12,000
Revenues	$ 1,250,000	$190,000 U	$1,440,000
Variable costs			
Direct materials	621,600	98,400 F	720,000
Direct manufacturing labor	198,000	6,000 U	192,000
Variable manufacturing overhead	130,500	13,500 F	144,000
Total variable costs	950,100	105,900 F	1,056,000
Contribution margin	299,900[b]	84,100 U	384,000[c]
Fixed costs	285,000	9,000 U	276,000
Operating income	$ 14,900	$ 93,100 U	$ 108,000

$ 93,100 U

Static-budget variance

[a]F = favorable effect on operating income; U = unfavorable effect on operating income.

[b]Contribution margin percentage = $299,900 ÷ $1,250,000 = 24.0%.

[c]Contribution margin percentage = $384,000 ÷ $1,440,000 = 26.7%.

FLEXIBLE BUDGET

- Flexible budget—shifts budgeted revenues and costs up and down based on actual operating results (activities)
- Represents a blending of actual activities and budgeted dollar amounts
- AQ * SP

FLEXIBLE BUDGET

Static Budget Variance

Actual	Flexible	Static (Master)
AQ*AP	AQ*SP	SQ*SP

Flexible Budget Variance

Sales Volume Variance

LEVEL 2 ANALYSIS, ILLUSTRATED

Level 2 Analysis

	Actual Results (1)	Flexible-Budget Variances (2) = (1) – (3)	Flexible Budget (3)	Sales-Volume Variances (4) = (3) – (5)	Static Budget (5)
Units sold	10,000	0	10,000	2,000 U	12,000
Revenues	$1,250,000	$50,000 F	$1,200,000	$240,000 U	$1,440,000
Variable costs					
Direct materials	621,600	21,600 U	600,000	120,000 F	720,000
Direct manufacturing labor	198,000	38,000 U	160,000	32,000 F	192,000
Variable manufacturing overhead	130,500	10,500 U	120,000	24,000 F	144,000
Total variable costs	950,100	70,100 U	880,000	176,000 F	1,056,000
Contribution margin	299,900	20,100 U	320,000	64,000 U	384,000
Fixed manufacturing costs	285,000	9,000 U	276,000	0	276,000
Operating income	$ 14,900	$29,100 U	$ 44,000	$ 64,000 U	$ 108,000

Level 2

$29,100 U — Flexible-budget variance

$ 64,000 U — Sales-volume variance

Level 1

$93,100 U — Static-budget variance

[a]F = favorable effect on operating income; U = unfavorable effect on operating income.

LEVEL 2 VARIANCES, ANALYSIS

Some possible reasons we might incur an unfavorable Sales-Volume Variance include:

1. Failure to execute the sales plan
2. Weaker than anticipated demand
3. Aggressive competitors taking market share
4. Unanticipated market preference away from the product
5. Quality problems

LEVEL 3 VARIANCES

- All product costs can have Level 3 variances. Direct materials and direct labor will be handled next.
- Direct materials and direct labor both have price and efficiency variances, and their formulae are the same.

DM AND DL LEVEL 3 VARIANCES

Flexible Budget Variance

Actual	AQi * APi	Flexible
AQ*AP AQi * APi	AQi * SPi	AQ*SP SQi * SPi

Price Variance

Efficiency Variance

Example:
Actual units produced 10,000
Actual DM cost per unit $15 (5 kg*$3 per Kg)
Standard DM cost per unit $12 (6 kg * $2 per Kg)

LEVEL 3 VARIANCES

- Price variance formula:

$$\text{Price Variance} = \left\{ \text{Actual Price Of Input} - \text{Budgeted Price Of Input} \right\} \times \text{Actual Quantity Of Input}$$

- Efficiency variance formula:

$$\text{Efficiency Variance} = \left\{ \text{Actual Quantity Of Input Used} - \text{Budgeted Quantity of Input Allowed for Actual Output} \right\} \times \text{Budgeted Price Of Input}$$

LEVEL 3 ANALYSIS, ILLUSTRATED

Level 3 Analysis

	Actual Costs Incurred (Actual Input Quantity × Actual Price) (1)		**Actual Input Quantity × Budgeted Price (2)**		**Flexible Budget (Budgeted Input Quantity Allowed for Actual Output × Budgeted Price) (3)**
Direct Materials	(22,200 sq. yds. × \$28/sq. yd.) \$621,600		(22,200 sq. yds. × \$30/sq. yd.) \$666,000		(10,000 units × 2 sq. yds./unit × \$30/sq. yd.) \$600,000
Level 3		\$44,400 F Price variance		\$66,000 U Efficiency variance	
Level 2			\$21,600 U Flexible-budget variance		
Direct Manufacturing Labor	9,000 hours × \$22/hr. \$198,000		9,000 hours × \$20/hr. \$180,000		10,000 units × 0.8 hr./unit × \$20/hr. \$160,000
Level 3		\$18,000 U Price variance		\$20,000 U Efficiency variance	
Level 2			\$38,000 U Flexible-budget variance		

[a]F = favorable effect on operating income; U = unfavorable effect on operating income.

VARIANCE SUMMARY