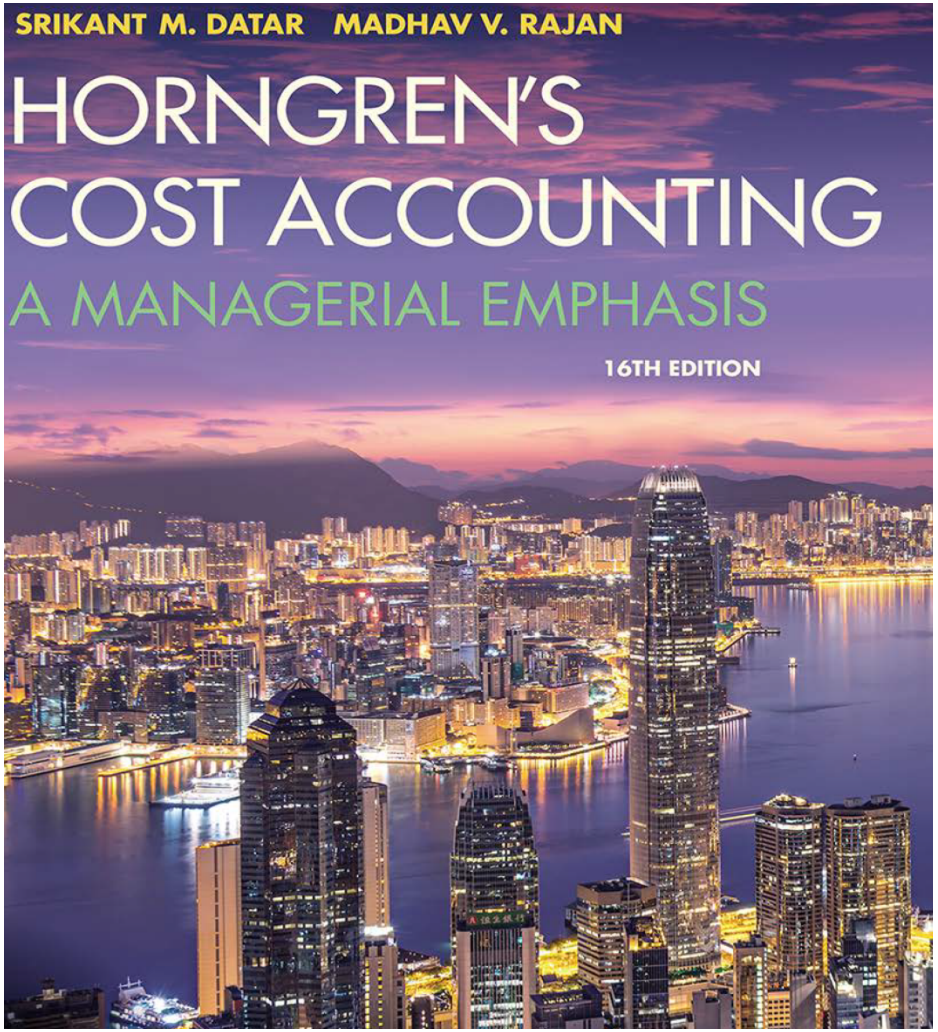
COST ACCOUNTING

Sixteenth Edition



Chapter 7

Flexible Budgets,
Direct-Cost Variances,
and
Management Control

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Basic Concepts (1 of 2)

Variance—the difference between actual results and expected (budgeted) performance.

Management by Exception—the practice of focusing attention on areas not operating as expected (budgeted).

A Static (master) budget is based on the level of output planned at the start of the budget period.

A Static budget variance is the difference between the actual result and the corresponding static budget amount.

Basic Concepts (2 of 2)

A Favorable variance (F) has the effect, when considered in isolation, of increasing operating income relative to the budget amount.

An Unfavorable variance (U) has the effect, when viewed in isolation, of decreasing operating income relative to the budget amount.

Variances

Variances may start out “at the top” with a Level 0 analysis.

This is the highest level of analysis and is nothing more than the difference between actual and static-budget operating income.

Levels 1, 2, and 3 examine the Level 0 variance, breaking it down into progressively more detailed levels of analysis.

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

- A flexible budget calculates budgeted revenues and budgeted costs based on the actual output in the budget period.
- The flexible budget is prepared at the end of the period, after managers know the actual output.
- The flexible budget is the hypothetical budget that would have been prepared at the start of the budget period if the company had correctly forecast the actual output for the period.
- In a flexible budget, the selling price is the same as the static budget, the budgeted unit variable cost is the same, and, within the relevant range, total fixed costs are the same.

Develop the Flexible Budget in Three Steps:

1. Identify the Actual Quantity of Output
2. Calculate the Flexible Budget for Revenues Based on the Budgeted Selling Price and Actual Quantity of Output
3. Calculate the Flexible Budget for Costs Based on the Budgeted Variable Cost per Output Unit, Actual Quantity of Output, and Budgeted Fixed Costs

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		$ 64,000 U	
		Flexible-budget variance		Sales-volume variance	
Level 1			$93,100 U		
			Static-budget variance		

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

Sales-Volume Variances (1 of 2)

The difference between the static-budget and the flexible-budget amounts is called the sales-volume variance because it arises SOLELY from the difference between the actual volume and the budgeted volume (from the static budget).

Sales-Volume Variances (2 of 2)

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

Flexible Budget Variances (1 of 2)

Level 3 variances provide even more information than we get from level 2.

All product costs can have Level 3 variances. Direct materials and direct labor will be discussed next. Overhead variances are discussed in detail in a later chapter.

Flexible Budget Variances (2 of 2)

Level 3 variances provide details of our level 2 flexible budget variances. Instead of simply identifying the difference between actual Material costs and (flexible) budgeted costs, we can break that variance down into a price variance component and an efficiency component.

Flexible Budget Variances—Formulas (Materials & Direct Labor)

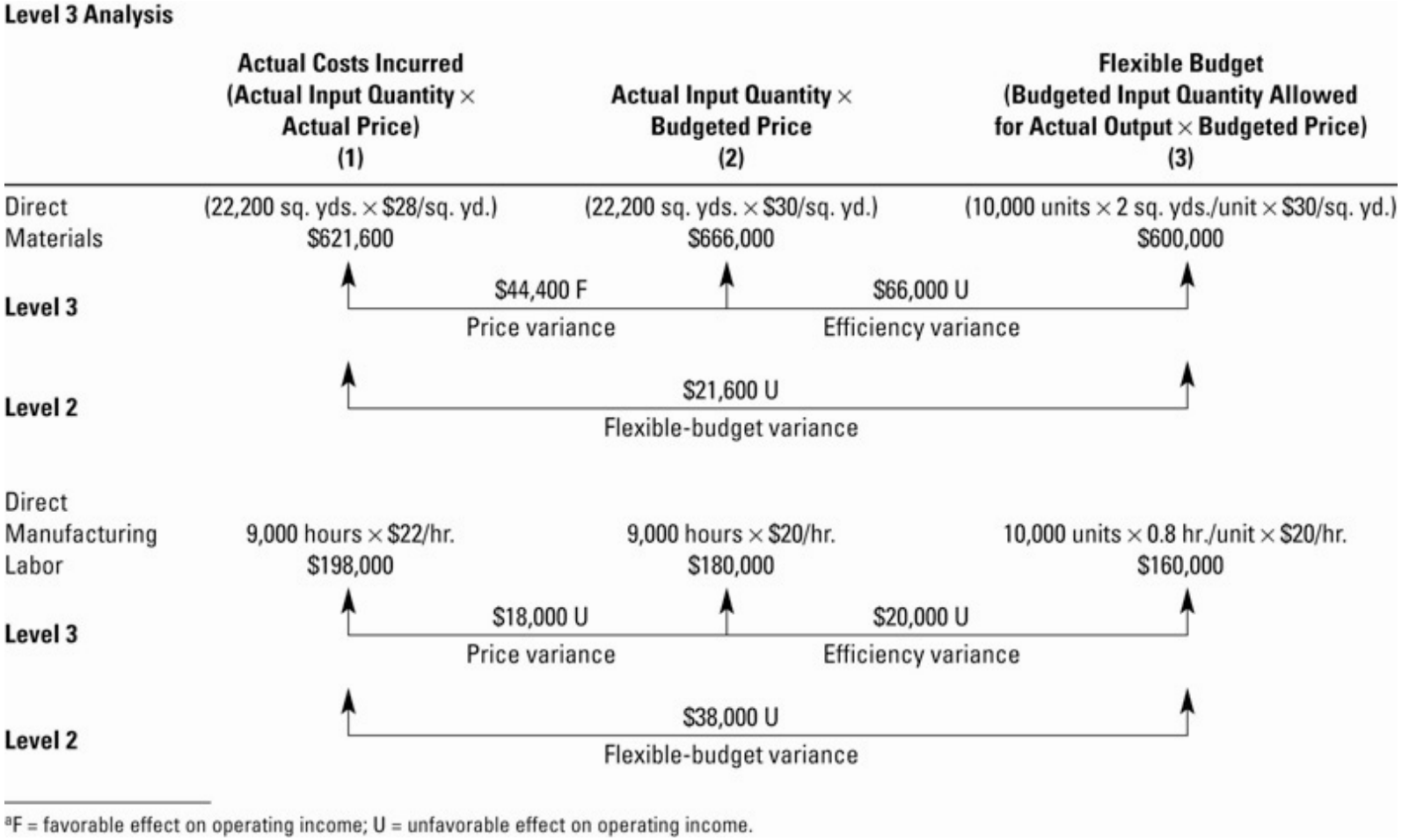
Price variance formula =

{Actual Price of Input –	Budgeted Price of Input}	X Actual Quantity of Input

Efficiency variance formula =

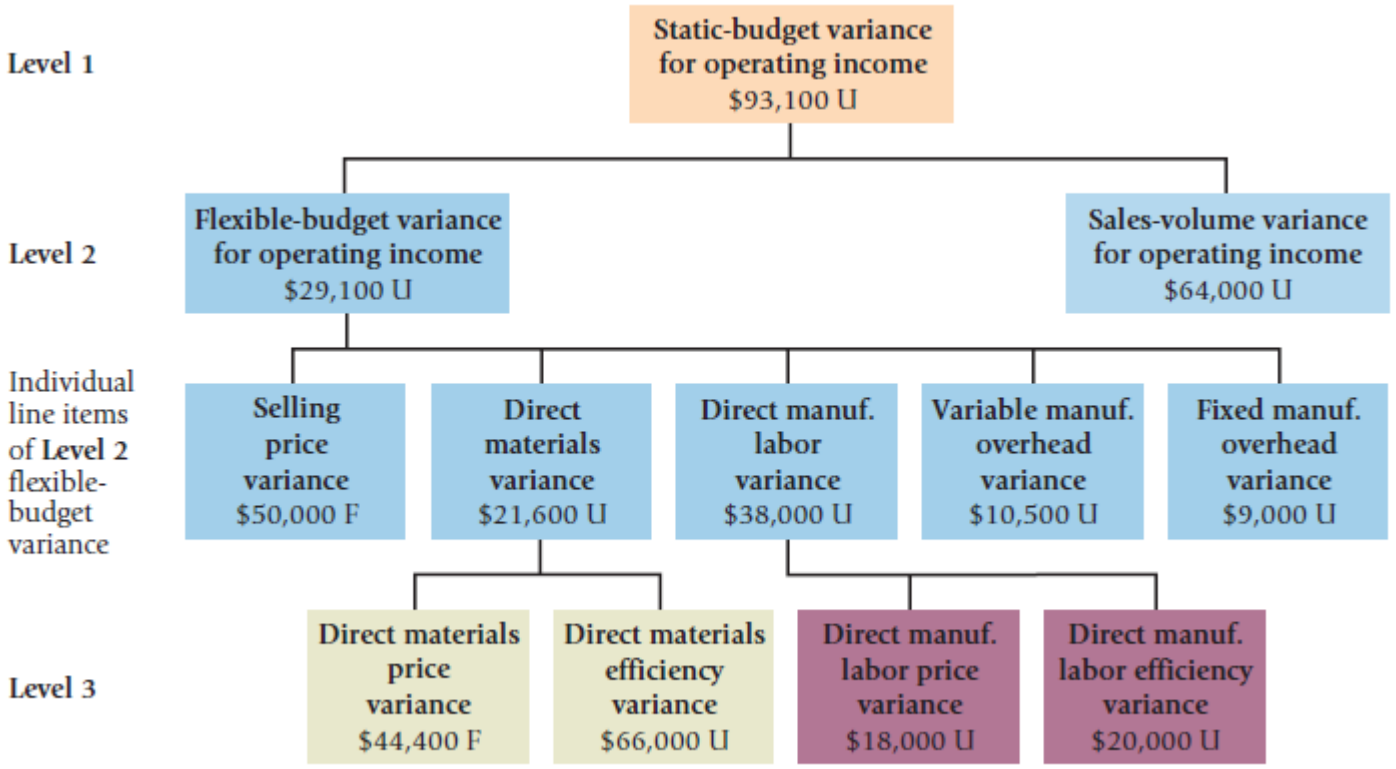
{Actual Quantity of Input Used –	Budgeted Quantity of Input Allowed for Actual Output}	X Budgeted Price of Input

Level 3 Analysis, Illustrated



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

Variance Summary



Obtaining Budgeted Input Prices and Input Quantities

Budgeted input prices and budgeted input quantities can be obtained from a number of sources including actual input data from past periods, data from other companies that have similar processes and standards developed by the firm itself.

A standard is a carefully determined price, cost, or quantity that is used as a benchmark for judging performance.

Variances and Journal Entries

- Each variance may be journalized.
- Each variance has its own account.
- Favorable variances are credits; unfavorable variances are debits.
- Variance accounts are generally closed into cost of goods sold at the end of the period, if immaterial.

Standard Costing

- Targets or standards are established for direct material and direct labor.
- The standard costs are recorded in the accounting system.
- Actual price and usage amounts are compared to the standard and variances are recorded.

Management's Use of Variances

- Price and efficiency variances provide feedback to initiate corrective actions.
- Standards are used to control costs and guide manager's to appropriate investigations of variances.
- Managers use variance analysis to evaluate performance after decisions are implemented.
- Understand why variances arise, learn, and improve future performance.

Benchmarking and Variances

Benchmarking is the continuous process of comparing your firm's performance levels against the best levels of performance in competing companies or in companies having similar processes.

Let's take a look at a common unit of measurement used to compare the efficiency of airlines: Cost per Available Seat Mile.

Benchmarking Airlines: Cost Per Seat Mile

EXHIBIT 7.5 Available Seat Mile (ASM) Benchmark Comparison of United Airlines with Six Other Airlines

Home Insert Page Layout Formulas Data Review View

	A	B	C	D	E	F	G
1		Operating Cost	Operating Revenue	Operating Income	Fuel Cost	Labor Cost	Total ASMs
2		(cents per ASM)	(cents per ASM)	(cents per ASM)	(cents per ASM)	(cents per ASM)	(Millions)
3	**Airline**	**(1)**	**(2)**	**(3) = (2) – (1)**	**(4)**	**(5)**	**(6)**
4							
5	United Airlines	13.65	13.66	0.01	4.30	4.27	214,061
6	Airlines used as benchmarks:						
7	Alaska Airlines	11.07	13.13	2.06	3.60	3.45	32,434
8	American Airlines	13.76	14.13	0.37	4.40	3.80	157,598
9	Delta Airlines	14.98	15.45	0.47	5.50	4.41	212,235
10	JetBlue Airways	11.69	12.47	0.78	4.10	3.04	45,200
11	Southwest Airlines	12.42	14.13	1.71	3.90	4.35	131,259
12	U.S. Airways	12.75	14.42	1.67	4.10	3.75	79,913
13	Average of airlines						
14	used as benchmarks	12.78	13.96	1.18	4.27	3.80	109,773
15							
16	*Source: 2014 data from the MIT Global Airline Industry Program*						

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